

Remedial Action Work Plan: Off-Property Soil Replacement Block K

Cabot/Koppers Superfund Site

Operable Unit Five (Koppers)

Gainesville, Florida

EPA ID: FLD980709356

Version 1

August 20, 2014

Prepared on behalf of Beazer East, Inc.



APPROVAL

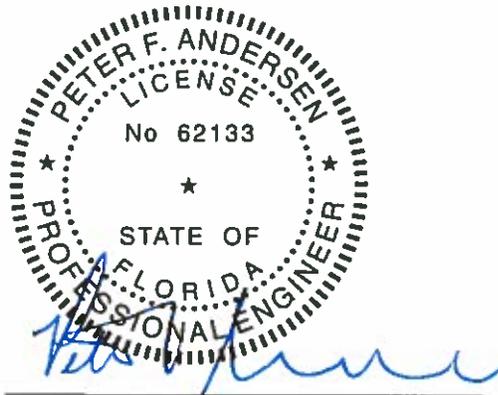


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Date: 8/20/2014

CERTIFICATION

This report has been reviewed and approved by the undersigned Florida Registered Professional Engineer. Tetra Tech prepared this report in a manner consistent with sound engineering practices. Furthermore, either I or engineering staff working under my supervision completed all work described herein (except as otherwise noted) and I have expertise in the discipline used in the production of this document.



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REVISION HISTORY

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ACRONYMS

CCA	chromated copper arsenate
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DNAPL	dense non-aqueous phase liquid
EPA	(US) Environmental Protection Agency
HG	Hawthorn Group
OU	operable unit
PAH	polycyclic aromatic hydrocarbon
PM ₁₀	particulate matter less than 10 microns in aerodynamic diameter (i.e. respirable dust)
RA	remedial action
RD	remedial design
ROD	record of decision
SCR	Seaboard Coast Line Railroad
SCTL	soil cleanup target level
SVOC	semivolatile organic compound
UFA	Upper Floridan Aquifer
US	United States
VOC	volatile organic compound

1 INTRODUCTION

On behalf of Beazer East, Inc. (Beazer), Tetra Tech has prepared this Remedial Action Work Plan for Off-Property Soil Replacement for the Cabot/Koppers Superfund Site (Site) in Gainesville, Alachua County, Florida. The Site includes areas that have been environmentally impacted by activities at the former Koppers wood-treatment facility and at the former Cabot Carbon pine-tar products facility (**Figure 1**).

This document pertains specifically to residential properties in Block J of the off-Property remediation area. The final remedial designs for these properties are included in this document. The project described in this plan will involve removal of existing soil from the subject properties near the former Koppers facility (**Figure 2**), replacement with clean soil, and installation of new landscaping materials to complete restoration. "Block K" constitutes four properties immediately south of NW 23rd Ave and west of NW 3rd Terr.

The Site consists of five Operable Units (OUs):

- OU1: The former Cabot Carbon facility and sediment impacts in Hogtown and Springstead Creeks attributable to the Cabot Carbon facility (Beazer has no responsibilities for OU1)
- OU2: Soil and the surficial (shallow) aquifer at the former Koppers facility
- OU3: The Hawthorn Group (HG) geologic sequence which lies below the surficial aquifer
- OU4: The Upper Floridan Aquifer (UFA) which is below the HG
- OU5: Soils and sediments outside of the former Koppers facility property

This project pertains to OU5.

A Consent Decree between Beazer and the United States (US) government was entered final in the United States District Court for the Northern District of Florida on July 9, 2013. The Consent Decree requires Beazer to conduct Remedial Design (RD) and Remedial Action (RA) activities for OU2, OU3, OU4, and OU5. Beazer's responsibilities are limited to impacts attributable to the operations at the former Koppers facility. Another party, Cabot Corporation, is responsible for activities related to OU1 and impacts attributable to the former Cabot Carbon facility.

This Plan is a submittal to the US Environmental Protection Agency (EPA) per the requirements of the Consent Decree. This document is specific to the Beazer RD/RA Program for the Site.

1.1 Site and Property Description

This section defines and describes the Superfund "Site" as well as the Beazer "Property" that is the part of the Site that formerly contained the Koppers wood-treatment facility.

The Site means the Cabot/Koppers Superfund Site and includes the area where environmental impacts attributed to these former operations has come to be found, with the

exception of the Northeast Lagoon generally located at the intersection of N. Main Street and NE 28th Place. The Site includes the former Koppers wood-treatment facility and the former Cabot Carbon pine-tar products facility in Gainesville, Florida. These two facilities were located on the north side of Florida Route 120, also known as NW 23rd Avenue, in Gainesville, Florida (**Figure 1**). A Seaboard Coast Line Railroad (SCR) line ran in a corridor located between the two facilities, with the Koppers facility on the west side of the rail line and the Cabot Carbon facility on the east side. SCR became part of what is now CSX Transportation.

Under the Consent Decree, Beazer has RD and RA responsibilities for the former Koppers facility and impacts related to the Koppers facility. The Koppers facility was operated on an 86-acre parcel (Property) located at 200 NW 23rd Avenue and bearing Alachua County parcel tax identifier 08250-000-000. The Property is zoned for general industrial use. Beazer currently owns the Property. The Property is approximately rectangular, covering a north-south distance of 3100 feet and an average east-west distance of 1200 feet. The Property is no longer used for industrial activity.

A paved main driveway runs from the Property entrance at NW 23rd Avenue north to approximately the center of the Property. There are other unpaved mulch-covered roadways used to access different parts of the Property. Much of the Property is nearly flat and covered with grass.

Residential parcels of the Stephen Foster neighborhood are located west of the Property. Several residential parcels are located immediately adjacent to the Property at the western Property boundary. In some areas, a 20-foot wide City right of way containing stormwater swales separates the Property from the residential parcels.

South of 23rd Avenue, land use is mixed. The four properties slated for remediation of Block K include a small strip mall and three apartment buildings.

1.2 Site History

The wood-treating facility that formerly existed on the Property (the Koppers facility) began operations in 1916 and ceased wood treating operations in 2009. Beazer is the current owner of the Property.

Over the years, wood-treatment preservatives used at the Koppers facility included creosote, pentachlorophenol, and chromated copper arsenate (CCA). Creosote is a dense (heavier than water) non-aqueous liquid (DNAPL) derived from coal tar that is comprised mainly of polycyclic aromatic hydrocarbons (PAHs) with other semivolatile organic compounds (SVOCs) and volatile organic compounds (VOCs). Pentachlorophenol is an anthropogenic organic pesticide which, in commercial form, often contained impurities including polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans (collectively referred to as "dioxin"). As its name implies, CCA contains chromium, copper, and arsenic compounds. Historical wood-treatment practices led to releases of wood preservatives at the Property. Primary release areas included the former Process (pressure-treatment) Area, the former Drip Track area where wood was allowed to dry immediately after treatment, and two former process-water lagoons called the South Lagoon and North Lagoon. The lagoons have been closed and filled.

The initial Record of Decision (ROD) was issued by EPA on September 27, 1990. At the Koppers portion of the Site, data from studies conducted after issuance of the 1990 ROD revealed Site conditions that were not contemplated by the 1990 ROD. Various environmental investigation and interim measures were completed through 2011. EPA issued a final Feasibility Study report in May 2010 and in 2011 an Amended ROD was issued.

1.3 Soil Concentrations

Surface and subsurface soil has been sampled in several phases at both on-Property and off-Property locations. Dioxin is the constituent that most often exceeds the residential cleanup goal in off-Site samples and is the constituent that is used to define areas of remediation. **Figure 2** summarizes the results, showing where cleanup goals are met and where they are not. In many of the locations depicted on this figure, samples were taken at multiple depths. In on-Property areas, most locations have at least one sample that does not meet all cleanup goals.

All off-Property samples taken at depths greater than 6 inches met the residential cleanup goal for dioxin (locations identified in **Figure 2**),¹ even where co-located shallow surface samples did not meet the residential cleanup goal. This reflects the understood migration pathway via dust which resulted in impacts that are limited to the upper few inches of soil.

1.4 Pilot Project

A pilot project for soil replacement at one property (436 NW 30th Avenue) was completed in November 2013 per an approved Pilot Plan (*Pilot Plan: Off-Property Soil Replacement*, Version 1, Tetra Tech, November 6, 2013). That property is immediately west of the Beazer Property (**Figure 2**) and is referred to as property E01 of Block E. New landscaping was installed after completing the soil replacement and that landscaping is currently being maintained.

1.5 Blocks A - J

The general procedures used for the pilot project have been used and are now being used for remedial action at the eighty one properties in Blocks A, B, C, D, E, F, G, H, I, and J where soil sampling has indicated dioxin concentrations above the cleanup goal. Details of the procedures are provided in the approved RAWPs for off-Property soil replacement previously submitted by Tetra Tech:

- Blocks G and H (February 21, 2014);
- Block E (March 7, 2014, Addendum March 24, 2014, Addendum #2 June 3, 2014);
- Block D (April 4, 2014);
- Block C (April 30, 2014, Addendum July 8, 2014));
- Block B (May 28, 2014); Block A (June 10, 2014);
- Block I (July 7, 2014); and
- Block J (July 25, 2014).

¹ Two additional samples were collected on February 19, 2014 at a depth interval of 1 to 2 feet below ground surface at properties C02 and B01. The concentrations are well below the residential cleanup goal.

1.6 Block K

The general procedures used in Blocks A, B, C, D, E, F, G, H, I, and J will also be used for the remedial action at the properties in Block K where soil sampling has indicated dioxin concentrations above cleanup goals. Signed agreements have been obtained for three of the four properties; the other agreement (K07) is expected soon. Details of the procedures are provided in Section 2. These details are similar to those presented in the prior approved RAWPs.

1.7 Project Objectives

The objective of this remedial action is to eliminate potential risks to receptors exposed to Site-related constituents in soil at the remediation properties by replacing surface soil available for human contact with clean soil that meets all cleanup goals and other applicable criteria.

The remedial action objective (RAO) applicable for this component of the remedy is to eliminate potential risks to receptors exposed to Site-related contaminants in surface soil (from Section 8.0 of the 2011 Amended ROD).

The ROD further states that specific cleanup goals for off-Site soil are based on stringent state standards of increased cancer risk less than 1×10^{-6} and hazard index less than 1. The ROD (at Table 8) identifies residential default direct-contact soil cleanup target levels (SCTLs) as the cleanup goals for off-Site residential properties (**Table 1**). Based on the data collected to date, dioxin is the critical constituent for defining the off-Site area with concentrations exceeding one or more cleanup goals.

Table 1. ROD Cleanup Goals for Residential-Property Surface Soil

Constituent	Cleanup Goal
Arsenic	2.1 mg/kg
PAHs (total benzo-a-pyrene toxic equivalents)	0.1 mg/kg
Dioxin (TCDD-TEQ)	7 ng/kg
Pentachlorophenol	7.2 mg/kg

Note that the above cleanup goals are average concentrations over an appropriate “exposure unit” such as a residential lot. Also, the concentrations are based on conservative, default assumptions for residential exposure.

1.8 Remedy Overview for Off-Property Soil (OU5)

In accordance with the Consent Decree and ROD, soil removal and replacement is to be conducted in off-Property residential areas where cleanup goals are not currently met (OU5), subject to property owner agreement. Soil removal and replacement includes the following (further described in Section 2):

- Excavation of surface soil in areas that are not paved or under permanent structures.
 - A target excavation depth of 1 foot is conservatively selected based on the fact that off-Property samples deeper than 6 inches meet cleanup goals.

- Fences and other non-vegetative landscaping are to be removed and either reused after soil replacement or replaced with materials of like kind or like value.
- Existing landscaping vegetation such as turf, mulch, shrubs, and small trees are to be removed and replaced after soil replacement with new landscaping vegetation of like kind or like value.
- Large or valuable trees may be left in place and protected by carefully digging near the tree trunk down to the root mat.
- The property owner may designate trees to remain and may designate landscaping that should not be disturbed.
- Placement of the excavated soil in an on-Property soil management area, which will eventually become part of the Site soil consolidation area that will be under a low-permeability cover and within the footprint of a subsurface cutoff wall.
- Backfill of the excavation with clean soil from an off-Site borrow source.
- Replacement of landscaping with materials of like kind or like value.
 - An owner may elect to use the same species of plants and same types of non-vegetative materials as currently present in his or her landscape.
 - Optionally, an owner may elect to have a new “Florida-Friendly” landscape of equivalent value installed that uses native, drought-resistant plants and that do not require excessive maintenance once established.
 - Large, healthy, trees that are removed to facilitate soil removal will be replaced on a two-for-one basis with nursery trees that will grow to similar sizes, unless the property owner does not desire such replacement. (However, in most cases, large trees will be protected rather than removed, thereby preserving the canopy of the neighborhood.) A local arborist will assist in development of plans for tree removal and replacement.
 - A local landscape architect will provide the landscape design. The property owner must approve the landscape design prior to commencement of restoration on his or her property.

2 REMEDIATION PLAN

This remediation plan includes descriptions of the activities that will be completed for the subject parcels in order to achieve cleanup goals. These activities are divided into: pre-removal activities, surface soil removal (upper 1 foot), management of removed soil, replacement with clean soil, landscaping, and close-out.

A conservative target soil removal depth of 1 foot is chosen for this plan based on the off-Site data collected to date which indicates that concentrations exceeding remediation goals are within the upper six inches of soil (see Section 1.3).

2.1 Final Parcel Design Drawings

Final parcel restoration design drawings for the subject properties covered by this plan are provided as **Figure 3-1 through Figure 3-4**.

The left side of each drawing shows existing conditions determined by a physical feature and topography survey (conducted by George F. Young) and a landscaping assessment (conducted by a local professional landscape architect firm, Zamia Design, and a local arborist from Kestrel Ecological Services). The left side of the figure shows:

- Property boundary locations including the location of the rights-of-way city streets.
- Locations, sizes, and types of trees and vegetation to be removed at the subject properties and along the edge of the Beazer property adjacent to the subject properties.
- Locations of existing trees near at the properties that will be kept in place.
- Tree protection zones for the trees to remain; careful excavation procedures will be used within the protection zones as described below.
- Protection zones for trees on adjacent properties that have protection zones extending onto the subject properties.
- Existing topographic elevations at specific measuring points in the front and back yards of the properties.
- Temporary benchmark elevations for use in verifying removal depths and replacement elevations.
- Locations of overhead and underground utilities; the exact location of underground utilities will be determined in the field and careful digging procedures will be implemented in the vicinity of underground utilities.
- Locations of permanent structures and paving (e.g. roadway, sidewalk, patios); no soil removal will be conducted beneath these features.
- Locations of an existing landscape features along with notations regarding their planned removal or reuse, if applicable.
- Locations of driveways.

-
- Locations of fences to be removed and discarded or to remain in place, with appropriate notations.
 - Areas of 1-ft soil removal at the subject properties (areas outside structures, pavement, and protection zones).
 - Area of (up to) 2-ft soil removal on the Beazer property to facilitate placement of a 2-ft clean soil cover.
 - Alignment of temporary erosion-control barriers (silt fence or wattles) along the edges of work zones and alignment of temporary high-visibility construction fencing along the edges of work zones.

The right side of each drawing shows the restoration plan to be implemented after replacement of clean soil to existing grade. Each plan has been approved by the property owners. This depiction includes:

- Areas and details of ground cover including turf, mulch, and ground-cover plantings.
- Locations and species of new trees (nursery stock, 15-gallon size and smaller, see **Appendix A**) to be planted on the properties; tree locations will be adjusted as needed to be at least 10 feet from underground utilities and out of the way of overhead utilities.
- Locations and species of other new vegetation such as shrubs and vines to be planted.
- Alignment of new replacement fences to be installed.
- Other landscaping improvements.

2.2 Pre-Removal Activities

A number of actions will be taken prior to soil removal. The actions are described in the following subsections.

2.2.1 Utilities Location

Overhead and underground utilities on and adjacent to the subject parcels have been identified using a combination of sources, including:

- Visible presence of utilities and utility appurtenances;
- Field markings completed by telephone and cable service providers;
- Approximate utility locations provided by Gainesville Regional Utilities; and
- A utility locating contractor using electromagnetic and ground-penetrating radar (GPR) equipment.

The underground utilities will be field located prior to commencing with excavation. The Sunshine One Call service will be used to facilitate field marking by all utility providers and shallow excavation will be conducted to identify the locations and depths of underground utilities that may be encountered during excavation. Identified underground utilities will be marked in the field.

2.2.2 Documentation of Pre-Remediation Conditions

Conditions of property features prior to remediation will be carefully noted in order to compare with post-remediation conditions and determine if any unintended property or infrastructure damage was caused during remediation.

2.2.3 Design Approval and Permitting

The property owners have had input on the restoration landscaping design and have approved plans for their property. Beazer representatives have met with property owners and residents to discuss the project in detail.

EPA has primary regulatory authority for approval of designs.

Beazer will coordinate with the City to meet all substantive requirements of relevant local permits. The City arborist has approved of the tree replanting plan and granted a tree removal permit. Overall tree mitigation requirements, if any remain, will be tallied after completion of the OU-5 remedial action.

2.2.4 Dust and Noise Monitoring Equipment

Four real-time dust monitors will be used in work zones during the soil removal work. The monitors will measure respirable dust concentrations: particulate matter less than 10 microns in aerodynamic diameter (PM₁₀). The monitors will be placed outdoors along the work-zone perimeter.

Appendix B of the RAWP for Block E (Tetra Tech, March 7, 2014) provides specifications of the dust monitors, noise monitors, and outdoor enclosures that will be used. The monitors will be mounted atop tripods. The monitors will be connected wirelessly to relay measured dust concentrations to an on-Property Site computer system for continuous monitoring and data recording. A weather monitoring station is also connected to this system. Additionally, the dust monitors will be set to alarm if an action level is reached.

The oversight personnel will be responsible for ensuring that manufacturer operation recommendations are followed to ensure instrument calibration and data validity.

Dust and noise monitoring will continue through soil replacement and sod placement, and will be discontinued several days after completion of the work. Monitoring will be conducted each working day from the beginning of work to the end of work.

Dust concentration and noise level data will be recorded for reporting in the RA completion report.

The Occupational Safety and Health Administration (OSHA) eight-hour, time-weighted-average Permissible Exposure Limit (PEL) for PM₁₀ dust concentration is 5 mg/m³ in a work zone. Dust becomes a potential nuisance issue at approximately 2 mg/m³. EPA has established a national ambient air quality standard (NAAQS) for dust (PM₁₀) of 0.150 mg/m³ averaged over a 24-hour period.

During work, the monitors will be set to alarm whenever the instantaneous PM₁₀ concentration exceeds 1.5 mg/m³ or whenever the 15-minute average concentration exceeds 0.150 mg/m³. This will let the field team know that dust control measures should be considered in order to keep average daily dust levels below the NAAQS.

Two work-zone-perimeter noise monitors will also be used to assess noise levels during the work. While some heavy machinery will be used during the work (e.g. chain saws, vacuum trucks, excavators), excessive noise levels are not expected. Hearing protection will be used by workers in close proximity to operating machinery with high noise levels.

2.2.5 *On-Property Access Roads and Stockpiles*

Figure 4 shows the locations of the removed soil management area (inside the eventual soil consolidation area) and a clean soil management area for backfill. Access roads to these areas and to the subject properties are also shown.

The removed soil management area created during the pilot project and used for Blocks A-I will be expanded to be able to hold at least 1,020 additional cubic yards of removed soil, and will be surrounded by rubber-filled erosion-control wattles. The footprint established for the removed soil management area has so far been more than sufficient to handle the amount of removed soil generated.

The paved clean-soil management area constructed during the pilot project will be used to store backfill for use at the subject properties.

2.2.6 *Tree, Vegetation, and Fence Removal*

A local licensed contractor will remove all trees to ground level. The trees will be shipped off-Site for disposal or use as a fuel source. Other vegetation will be removed, and fences will be removed per the design.

2.2.7 *Remediation Property Site Preparation*

Immediately prior to commencing excavation activities at a parcel, several initial activities will be conducted, as indicated below:

- All excavation areas will be marked in the field per the final design using stakes, flags, field paint, etc.
- Placement of silt fence or straw wattles at the outer edges of the excavation area to control erosion and protect against sediment migration (see **Figures 3-1 through 3-4**).
- Fences will be removed per the design drawings (**Figures 3-1 through 3-4**). Removed fence materials will be discarded, unless otherwise marked for reuse.
- Tree-protection zones will be field marked.
- Landscaping items to be removed for later use will be stored at a convenient location at the remediation property of origin or on the Beazer Property.

2.3 *Soil Excavation*

Based on the design drawings, approximately 1,020 cubic yards of soil will be removed from the subject properties and the adjacent strip of the Beazer Property. The following subsections describe the processes to be conducted during excavation.

2.3.1 *Temporary Relocation Assistance*

Beazer will provide a stipend to each property owner to cover lodging and meals for all residents of the property for the period of excavation and backfill (expected to be one week or less for any individual property). The stipend amount will be based on current per diem rates

for Gainesville as published by the US General Services Administration. Residents will not be required to relocate. Construction crews will provide adequate and safe home ingress and egress for residents who choose not to relocate during excavation and backfill.

2.3.2 Stump Grinding

As needed to facilitate excavation, stumps will be ground in place to a depth of at least one foot with dust control measures such as water spray in use. Stump grindings will be left at the stump location for management with removed soil.

2.3.3 Excavation Procedures and Equipment

In accessible areas not within special protection zones, soil at subject properties will be removed using an excavator or mini-excavator with appropriate size and maneuverability. The target excavation depth will be 1.0 foot, which will be verified by the oversight engineer/technician as described in the next subsection. This target depth is appropriate and conservative based on off-Site data, which indicate that concentrations exceeding cleanup goals are only in the upper 6-inch sample collection interval. By removing a conservative thickness (more than the 6-inch impacted zone), confirmation sampling will not be needed.

In order to protect existing paved features and foundations, small buffer areas will be established adjacent to pavement and structures where limited excavation will occur. Within approximately 1 foot of pavement and within approximately 2 feet of permanent buildings, only ground cover and a thin layer of soil will be removed using careful digging procedures (e.g. with hand tools).

In tree-root-protection areas and other special areas designated on the design drawings (**Figures 3-1 through 3-4**), special tools and procedures will be used to ensure optimum protection of trees and property. For instance, manual digging or raking of soil from the protection zone into the adjacent excavation area will be employed as appropriate. The area within the tree protection zone would then be covered with topsoil and mulch immediately. No storage of any construction or landscape materials will take place within the tree protection zone. Excavation depths less than 1.0 ft are acceptable in these areas to prevent damage to tree roots or underground structures/utilities.

At the outer edges of tree protection zones, the 1.0-ft cuts will be made in a manner that cuts roots cleanly rather than pulling roots.

Excavated soil will be placed into a dump truck at the property. Transport and management of this removed soil are discussed in below.

2.3.4 Field Verification Measurement and Acceptance

Beazer oversight personnel will spot-check excavation depth using a laser level referenced to a pre-determined elevation at a temporary bench mark to each verification check point identified in the design figure (i.e. pre-construction survey data points in excavation areas). The target removal depth will be 1.0 ft at the residential properties.

At each measurement point, the post-excavation elevation will be determined and compared to the pre-excavation (survey) elevation. If the difference (depth of excavation) rounded to the nearest 0.1 ft, is less than the target depth, then additional excavation will be conducted to reach the target depth throughout the excavation. A field form will be used to document elevation checks during excavation.

Photographs will be taken during excavation to show the excavation areas and to document progress. Detailed records will be kept in a field book by the oversight personnel.

2.3.5 *Dust Control*

Non-contaminated water will be spread on soil before and during excavation, if necessary, to suppress/control generation of dust. The water spread will be controlled to keep the soil moist but not cause water runoff. Excavation will not be performed during inclement weather to prevent transport of soil via erosion/stormwater runoff or dust.

Temporary dust barriers (flexible fencing) will also be used if and where needed, especially along the Beazer property boundary after removal of trees and fences there and before backfill is completed.

Dust monitoring will be conducted throughout the excavation work to ensure that dust generation remains low and to trigger control measures if needed. Whenever an instantaneous or time-averaged dust concentration alarm is triggered, dust control measures will be considered and reasons for implementing or not implementing control measures will be documented. Action levels for PM₁₀ dust are 1.5 mg/m³ instantaneous and 0.15 mg/m³ averaged over any 15-minute interval. These levels are based on both nuisance levels for respirable dust and NAAQS.

Also, soil backfilling (as described in a subsequent subsection) and landscaping will occur as soon as practicable after soil removal which will limit the potential for dust generation.

2.3.6 *Erosion and Stormwater Control*

Due to the shallow (1.0 ft) excavation depth, and the short expected duration of work, erosion and stormwater control should not be major issues. Nonetheless, intense storms during the work could cause erosion. As previously indicated, erosion control devices will be installed around the perimeter of the excavation area to limit runoff and prevent sediment migration (**Figures 3-1 through 3-4**). If other control measures such as hay bales or temporary stormwater diversions are warranted due to occurring or expected intense storms during remediation, these measures will be taken.

2.3.7 *Equipment Contamination Mitigation*

In order to limit the potential for transport of impacted soil via remediation equipment, several precautions will be taken:

- When possible, soil-transport trucks and roll-offs will be placed on hard surfaces, mats, or in areas that have already been excavated in order to eliminate or limit contact of transport-truck wheels with impacted soil.
- Soil adhering to the wheels or buckets of excavation equipment, or to other equipment coming in contact with impacted soil, will be brushed or washed away and collected with the excavation spoils for removal.
- Work may be delayed during extremely wet conditions to avoid tracking mud.
- A water truck and/or street sweeper will be used as needed to collect soil from street surfaces. The material will be collected with excavation soils for removal.

2.4 Management of Removed Soil

Excavated soil will be placed into a truck at the excavation area. The material will be transported to the designated removed soil management area on the Beazer Property via NW 23rd Avenue, NW 3rd Terrace, the main Property driveway and an improved access road. The management area will be surrounded by rubber-filled erosion-control wattles to prevent soil from washing off of the pile to other areas of the Property.

The soil mound will be stabilized with grass at the completion of the OU-5 remedial action.

2.5 Backfill

2.5.1 Backfill Materials, Equipment and Procedures

Clean off-Site soil will be brought to the remediation parcel for placement in the excavation. Three local soil sources have been identified for potential use. A sample from each source was tested to ensure that (a) the soil does not exhibit hazardous characteristics and (b) the soil does not contain levels of Site constituents or other common contaminants above Florida default residential SCTLs. The laboratory results are provided in Appendix C of the RAWP for Block E (Tetra Tech, March 7, 2014).

Clean soil will be delivered to a clean-soil stockpile area on the Beazer Property (**Figure 4**). Equipment to be used to transport clean soil to the excavation and used for backfilling will be decontaminated prior to use.

Backfill soil will be placed into excavations using equipment similar to that used for the soil removal (i.e. small excavators). Soil will be shaped and lightly compacted using grading equipment until reasonable consolidation is achieved. Dense compaction is not desired in landscaped areas because it would limit drainage and root growth.

Backfill will continue until the pre-restoration grade is achieved.

In plantings areas, the upper 3 inches (minimum) of backfill will be soil of relatively high organic content ("Johnson Soil") to promote plant vitality. This is based on recommendation of the local landscape architect for the project. Only organic fill will be used in tree protection areas.

2.5.2 Field Check and Criteria for Acceptance

Beazer oversight personnel will spot-check restoration elevations using a laser level from a pre-determined elevation at a temporary bench mark to each verification check point identified on the property survey. Generally, restoration will be to within 0.2 ft of the design elevation at elevation check points.

A field form will be used for documenting elevation checks.

2.5.3 Dust Control

Dust control and dust monitoring procedures will continue during backfilling as described in Section 2.3.5. Also, landscaping will occur as soon as practicable after backfilling to limit the potential for dust generation.

2.5.4 Erosion and Stormwater Control

The erosion-control devices installed around the perimeter of the excavation area will remain in place until landscaping has been conducted to establish ground cover. If other control measures such as hay bales or temporary stormwater diversions are warranted due to occurring or expected intense storms during remediation, these measures will be taken.

2.6 Landscaping

Landscaping features will be installed as soon as practicable after completion of backfilling. Landscaping will follow the owner-accepted landscaping plan (**Figures 3-1 through 3-4**).

Generous amounts of mulch will be used in plantings areas to provide additional organic material for plant vitality. Plantings will be placed by local landscapers in topsoil-filled holes to help promote growth.

Beazer will conduct any necessary lawn watering for up to 30 days and will ensure that irrigation water is available for new trees as needed for up to six months after landscape installation. The property owners will be responsible for the maintenance thereafter. A written information sheet will be provided to owners to define best practices for long-term landscaping maintenance.

2.7 Close-Out

Close-out actions listed below will be taken in order to complete the off-Site soil remediation.

2.7.1 Elevation Data

Elevations at verification points will be compiled after the construction is completed to ensure post-construction site grade is similar to pre-construction condition. These elevations will be included on the as-built drawing.

2.7.2 Photo Documentation

Final finish with site features and vegetation will be photographed for documentation.

2.7.3 Landscape Irrigation

For properties that currently have landscape irrigation systems, new landscape irrigation systems will be installed. For the other properties, temporary water lines for landscape irrigation will be installed. Beazer will be responsible for paying for this water.

For 30 days after landscape installation, Beazer's contractor will irrigate the new landscaping as needed. Upon completion of 30 day period after landscape installation, Beazer will provide a written notice of completion to the property owners. Beazer will ensure that irrigation water is available for at least 180 days after landscape installation for landscape irrigation. Then the temporary water lines will be removed.

2.7.4 Owner/Resident Interview

The property owner will be interviewed soon after the project is completed. Maintenance instructions for ground cover, shrubs, and trees (if applicable) will be provided to the owner. A project completion sheet will be signed by the owner and the project engineer to indicate the completion and satisfaction of the soil remediation project.

2.7.5 Stormwater Observation

A field engineer will inspect the site grade, after vegetation is established, during and after the first few storm events to evaluate stormwater runoff conditions. The stormwater observation will be included in the final soil remediation construction report.

2.7.6 Home Cleaning Assistance

Beazer will provide a stipend to cover a home cleaning service as a courtesy after the completion of the soil removal and landscaping. The amount of the cleaning will be based on the heated living area of the home and past charges in Gainesville for similar services (e.g. at the pilot property).

2.7.7 Corrective Actions

If the remediation activities directly cause damage to property, Beazer will make appropriate repairs or replacements in order to leave overall conditions of the property similar to, or better than, they were prior to remediation.

Likewise, if Beazer-installed landscape vegetation fails to become viable within one year due to installation or other material defects, Beazer will replant vegetation in order to implement the original intended landscaping plan or an alternative agreeable to the property owner and Beazer. However, Beazer will not be responsible for landscape failure due to lack of irrigation by the owner or for long-term maintenance of off-Site landscapes.

If protected trees die or become severely and chronically unhealthy within one year as a direct result of remediation, Beazer will have the trees removed and replaced on a two-for-one basis.

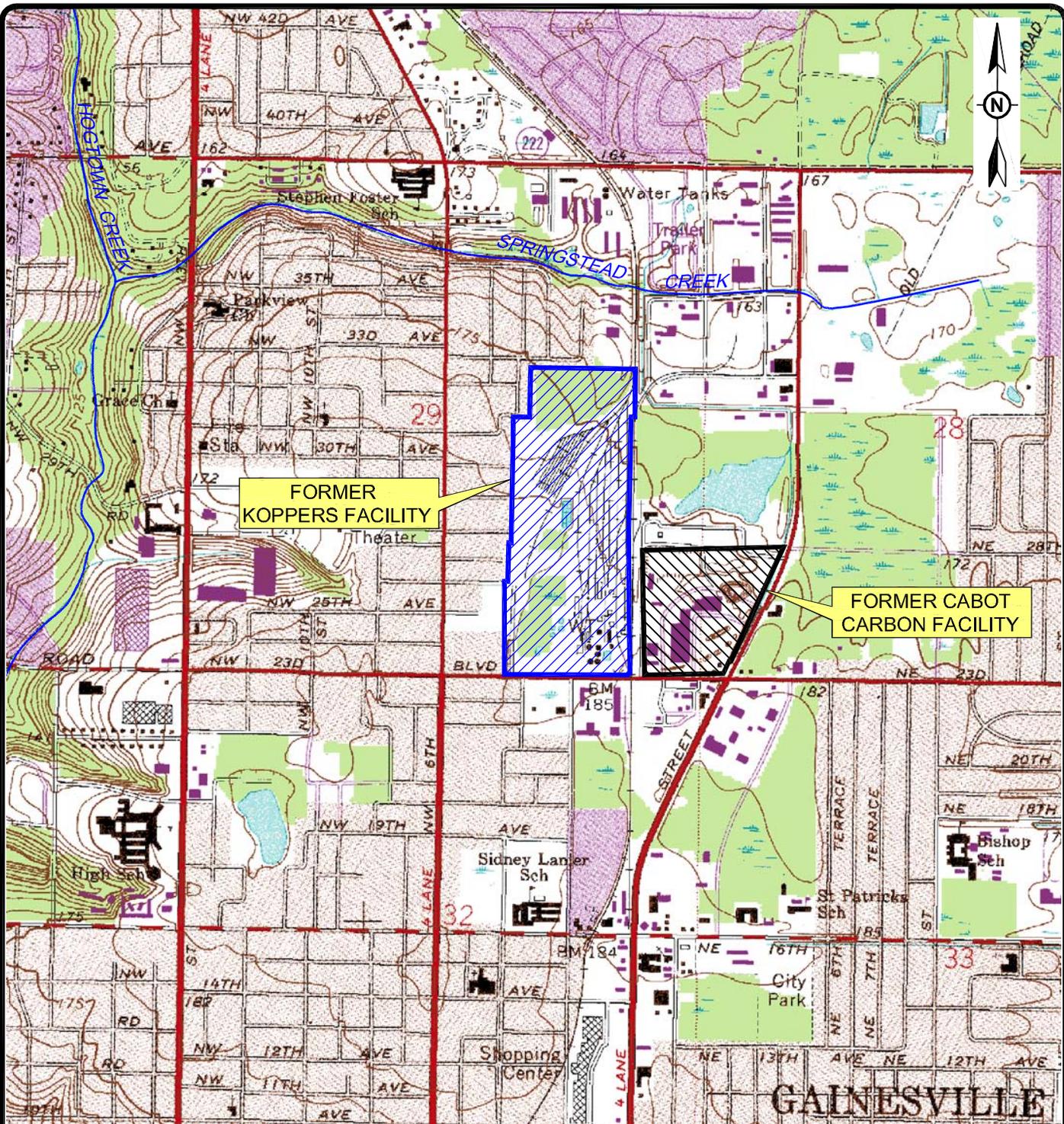
2.7.8 Completion Drawing and Documentation

A completion drawing with updated site features and final grades will be prepared. The drawing will be similar to the post-remediation design drawing (see right side of **Figures 3-1 through 3-4**) but with as-built information included.

The RA implementation will be documented in an RA Completion Report for the off-Property soil replacement (OU5) action.

3 SCHEDULE

Preparation work for the project has already begun. The soil removal portion of the project will be completed by approximately September 12.



SOURCE: U.S.G.S. QUADRANGLE GAINESVILLE EAST, FLA 1966 (PHOTOREVISED 1988)

NOTE:
FEATURES SHOWN AT FORMER KOPPERS FACILITY DO NOT REFLECT CURRENT CONDITIONS.

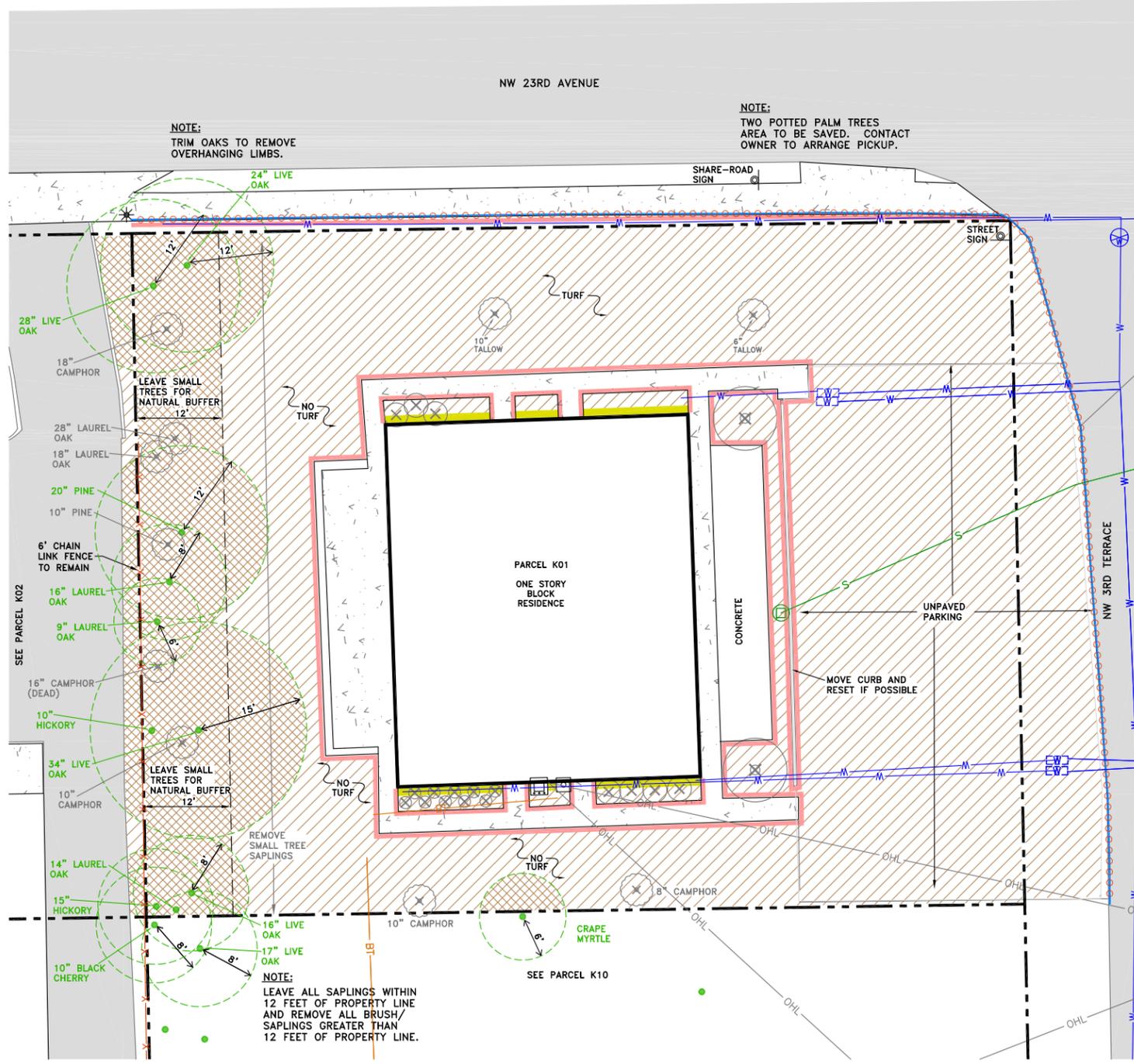
LEGEND

-  FORMER KOPPERS FACILITY
-  FORMER CABOT CARBON FACILITY

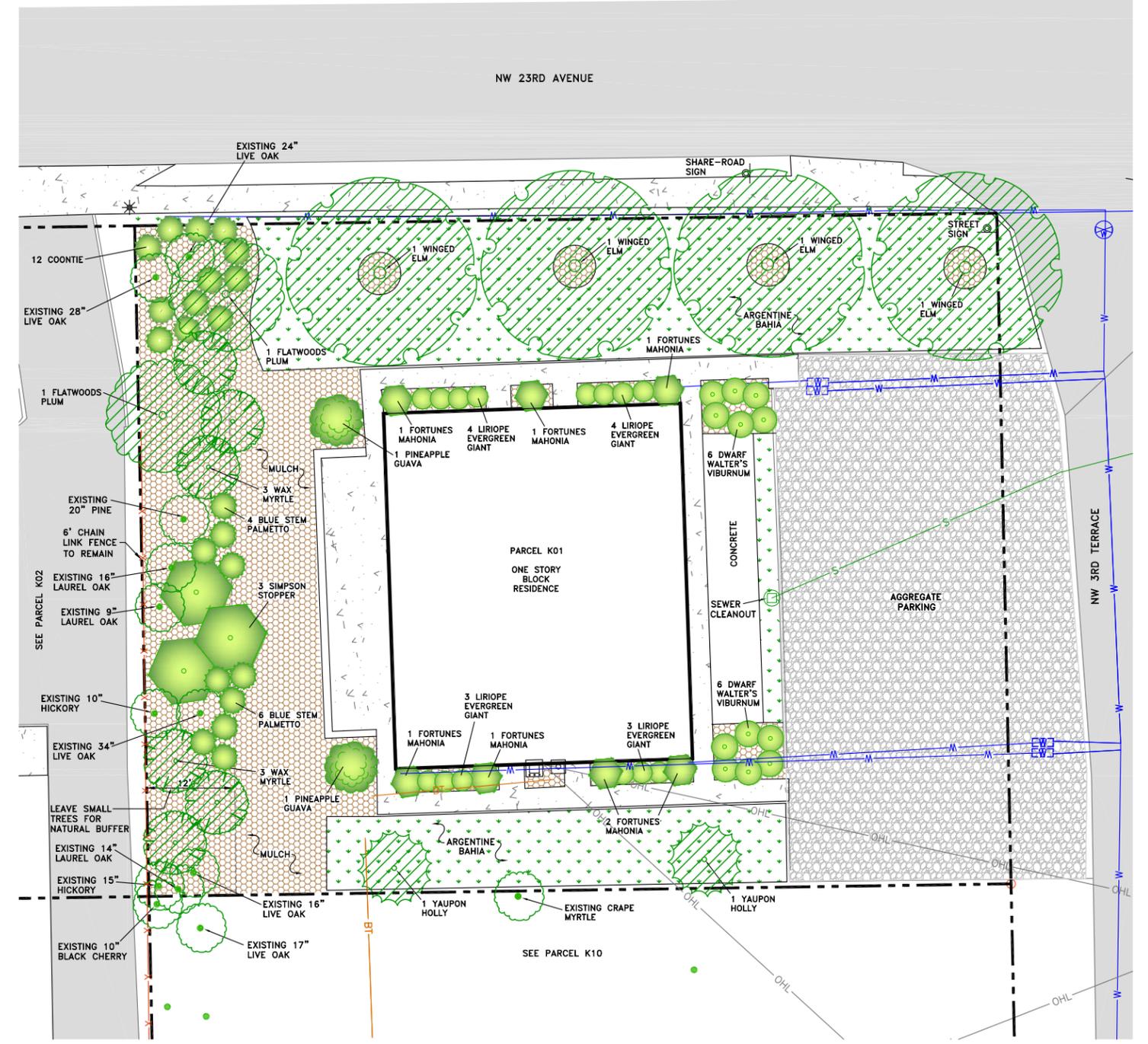


TITLE: SITE LOCATION			
LOCATION: Cabot Carbon/Koppers Superfund Site Gainesville, Florida			
 TETRA TECH	APPROVED	GC	FIGURE 1
	DRAFTED	CP	
	PROJECT#	117-2201283	
	DATE	9-3-13	

P:\ACADY\2201-283-GAIN\2201283004A.DWG



EXISTING CONDITIONS AND SOIL REMOVAL PLAN



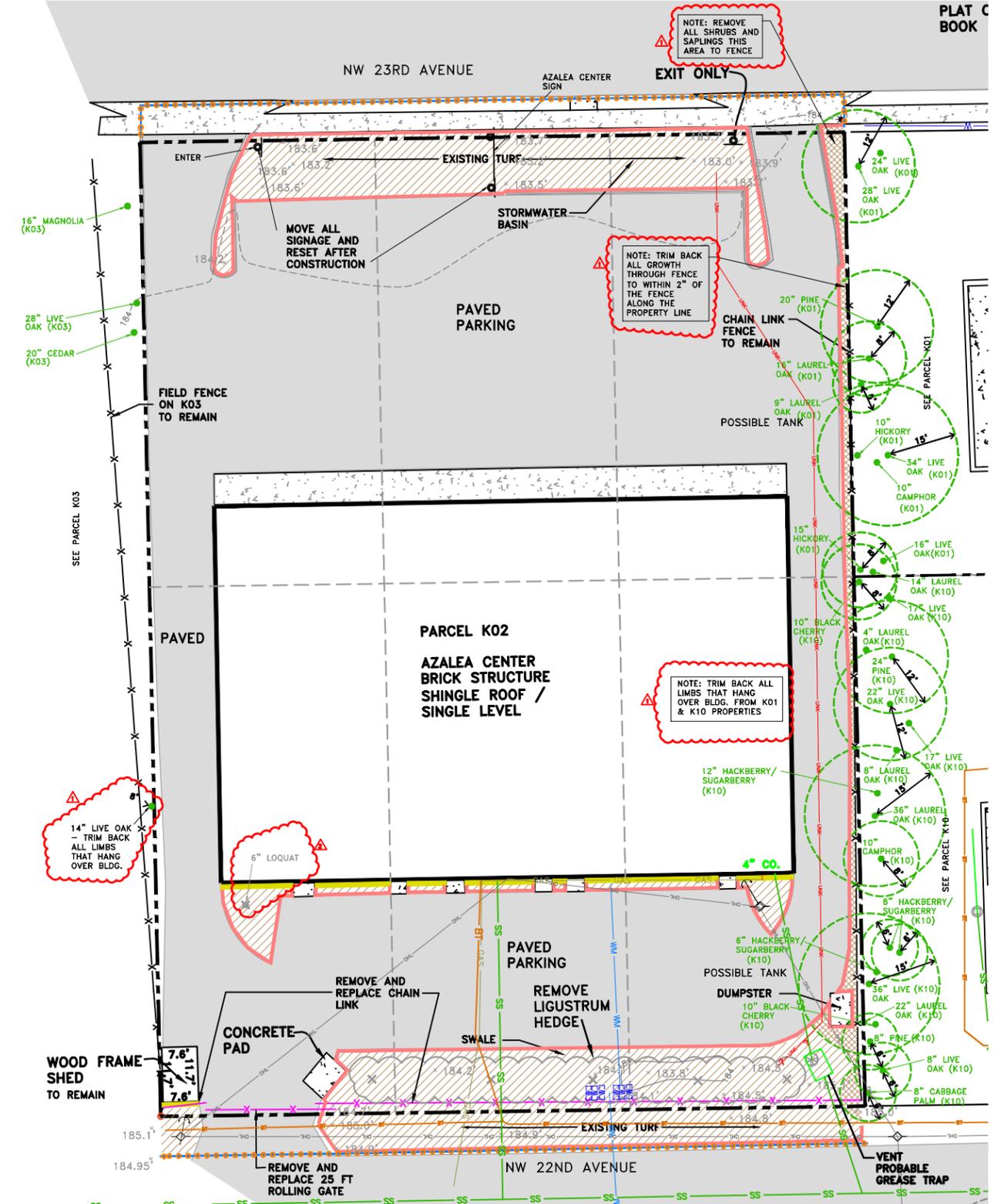
RESTORATION PLAN

LEGEND

- PROPERTY LINE
- BRUSH OR RAKE TOPSOIL TO ROOT MAT. REPLACE IMMEDIATELY. AREA = 1,895 S.F.
- 1 FT SOIL REMOVAL AREA AREA = 6,775 S.F.
- EXISTING 6' CHAIN LINK FENCE
- PROPERTY SETBACK
- LIMITED EXCAVATION WITHIN 2 FT OF PERMANENT BUILDINGS
- LIMITED EXCAVATION WITHIN 1 FT OF PAVEMENT
- SHRUB TO BE REMOVED
- TREE OR SHRUB TO BE REMOVED
- TEMPORARY BENCHMARK
- PRE-CONSTRUCTION SURVEY DATA
- TOPOGRAPHIC CONTOUR
- TREE TO BE PROTECTED WITH PROTECTION RADIUS AND TREE PROTECTION AREA
- UTILITIES
 - OHW OVERHEAD UTILITY LINES
 - SS UNDERGROUND SANITARY SEWER (APPROX.)
 - WM UNDERGROUND WATER MAIN (APPROX.)
 - GAS UNDERGROUND NATURAL GAS (APPROX.)
 - BT UNDERGROUND TELEPHONE (APPROX.)
 - EL UNDERGROUND ELECTRIC (APPROX.)
 - UNK UNDERGROUND UNKNOWN (APPROX.)
- SILT FENCE OR STRAW WATTLES DURING WORK LENGTH = 220 FT
- HIGH VISIBILITY CONSTRUCTION FENCE DURING WORK LENGTH = 220 FT
- SCALE IN FEET

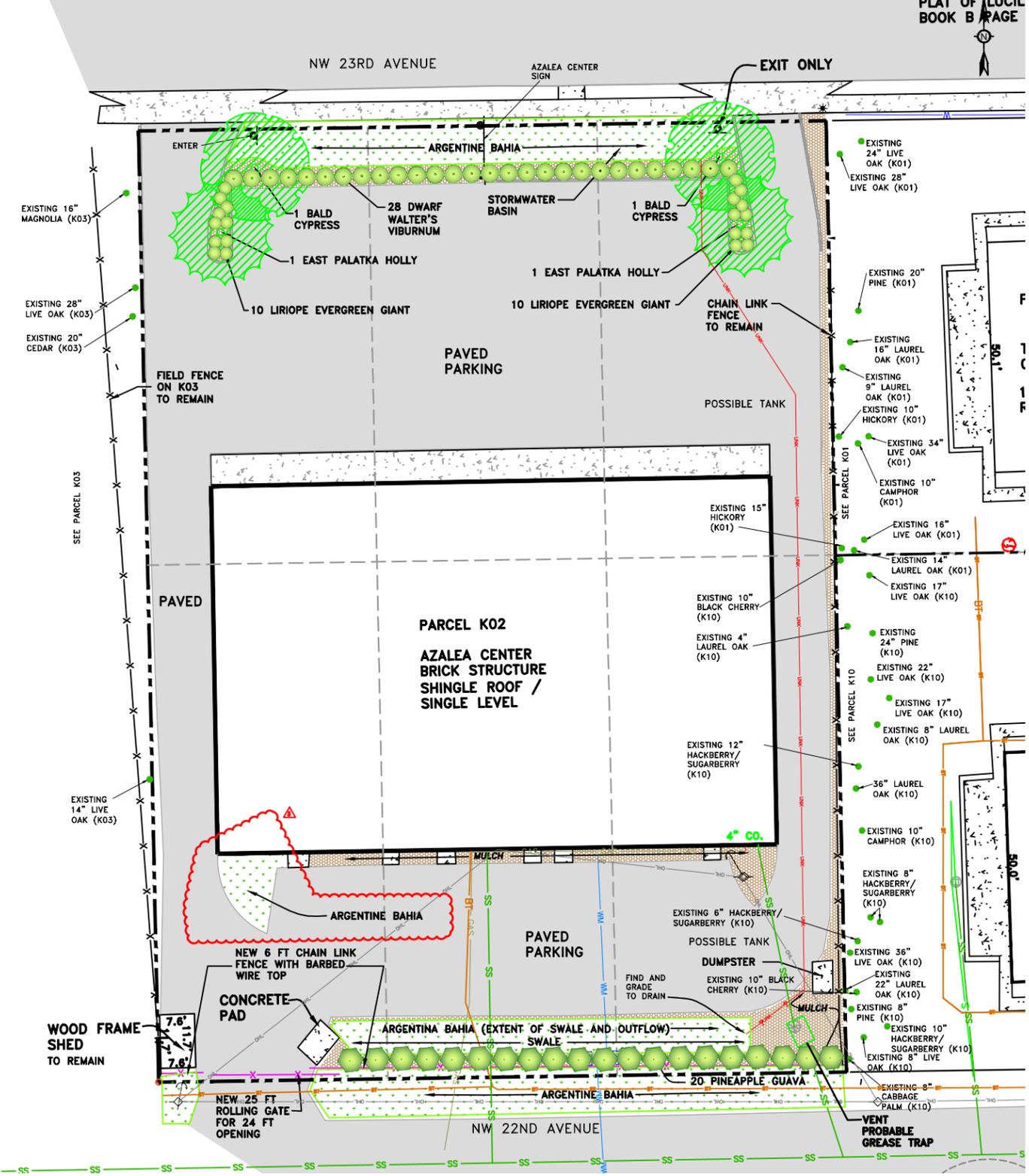
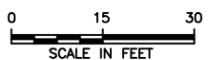
LEGEND

- GRAVEL AREA = 295 S.F.
- ARGENTINE BAHIA SOD
- PINE BARK MULCH
- PROPERTY LINE
- EXISTING 6' CHAIN LINK FENCE
- EXISTING TREE
- NEW TREE
- NEW TREE OR SHRUB
- UTILITIES
 - OHW OVERHEAD UTILITY LINES
 - SS UNDERGROUND SANITARY SEWER (APPROX.)
 - WM UNDERGROUND WATER MAIN (APPROX.)
 - GAS UNDERGROUND NATURAL GAS (APPROX.)
 - BT UNDERGROUND TELEPHONE (APPROX.)
 - EL UNDERGROUND ELECTRIC (APPROX.)
 - UNK UNDERGROUND UNKNOWN (APPROX.)
- DATE
- REVISION
- TITLE: **K01 SOIL RESORATION PLAN**
- LOCATION: **2216 NW 3RD TERRACE Gainesville, Florida**
- APPROVED: GC
- DRAFTED: CP
- PROJECT#: 117-2201319
- DATE: 8-15-14
- FIGURE: **3-1**



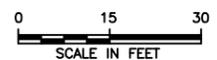
EXISTING CONDITIONS AND SOIL REMOVAL PLAN

- LEGEND**
- PROPERTY LINE
 - BRUSH OR RAKE TOPSOIL TO ROOT MAT. REPLACE IMMEDIATELY. AREA = 450 S.F.
 - 1 FT SOIL REMOVAL AREA AREA = 4,100 S.F.
 - CHAIN LINK FENCE WITH BARBED WIRE TOP REMOVE AND REPLACE
 - CHAIN LINK FENCE TO REMAIN
 - PROPERTY SETBACK
 - LIMITED EXCAVATION WITHIN 2 FT OF PERMANENT BUILDINGS
 - LIMITED EXCAVATION WITHIN 1 FT OF PAVEMENT
 - SHRUB TO BE REMOVED
 - TREE OR SHRUB TO BE REMOVED
 - TEMPORARY BENCHMARK
 - PRE-CONSTRUCTION SURVEY DATA
 - TOPOGRAPHIC CONTOUR
 - TREE TO BE PROTECTED WITH PROTECTION RADIUS AND TREE PROTECTION AREA
 - UTILITIES
 - OHW OVERHEAD UTILITY LINES
 - SS UNDERGROUND SANITARY SEWER (APPROX.)
 - WM UNDERGROUND WATER MAIN (APPROX.)
 - GAS UNDERGROUND NATURAL GAS (APPROX.)
 - BT UNDERGROUND TELEPHONE (APPROX.)
 - EL UNDERGROUND ELECTRIC (APPROX.)
 - UNK UNDERGROUND UNKNOWN (APPROX.)
 - SILT FENCE OR STRAW WATTLES DURING WORK LENGTH = 315 FT
 - HIGH VISIBILITY CONSTRUCTION FENCE DURING WORK LENGTH = 315 FT



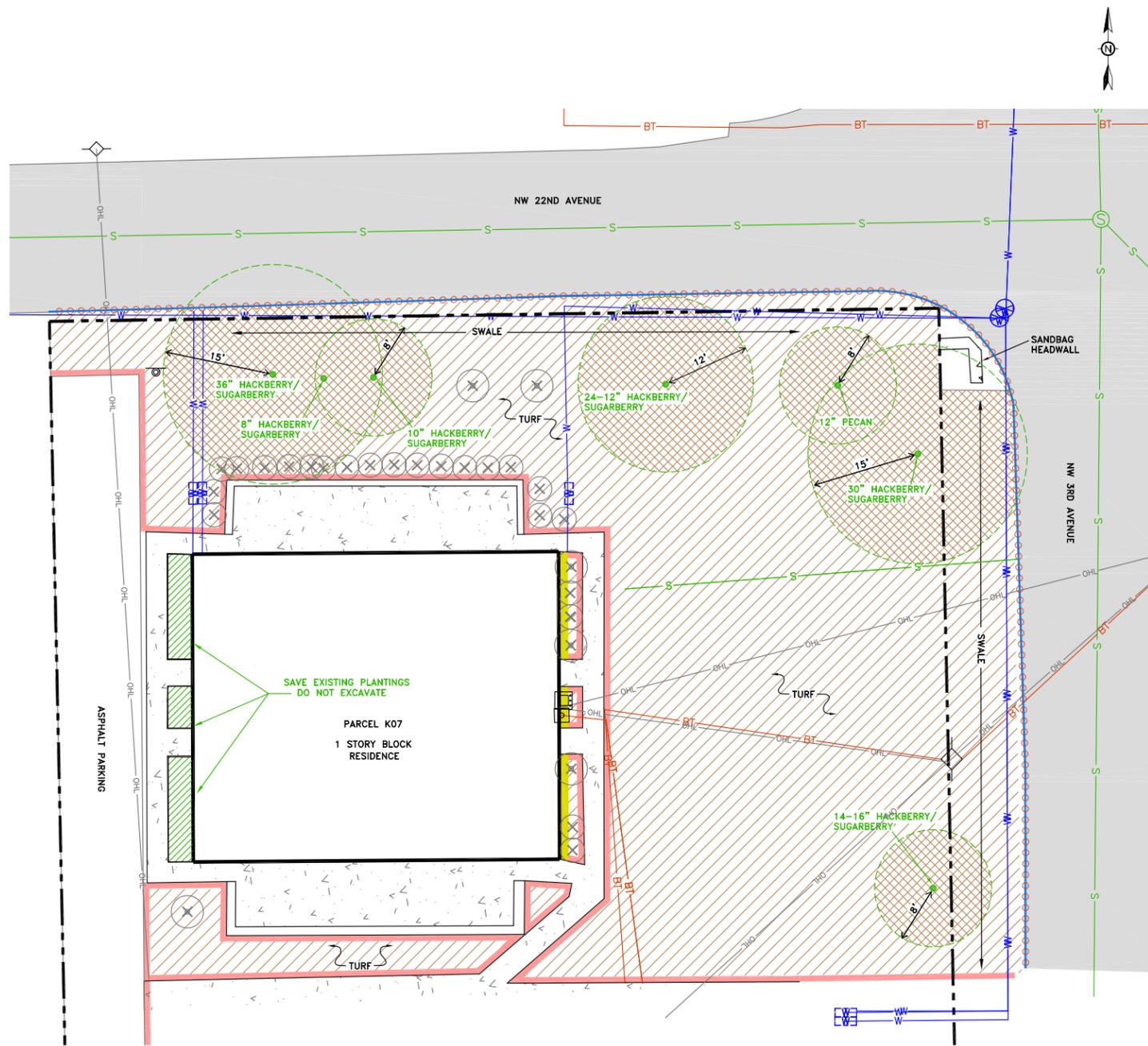
RESTORATION PLAN

- LEGEND**
- ARGENTINE BAHIA SOD
 - PINE BARK MULCH
 - PROPERTY LINE
 - NEW 6 FT CHAIN LINK FENCE WITH BARBED WIRE TOP LENGTH 149 FT.
 - CHAIN LINK FENCE TO REMAIN
 - EXISTING TREE
 - NEW TREE
 - NEW TREE OR SHRUB
 - UTILITIES
 - OHW OVERHEAD UTILITY LINES
 - SS UNDERGROUND SANITARY SEWER (APPROX.)
 - WM UNDERGROUND WATER MAIN (APPROX.)
 - GAS UNDERGROUND NATURAL GAS (APPROX.)
 - BT UNDERGROUND TELEPHONE (APPROX.)
 - EL UNDERGROUND ELECTRIC (APPROX.)
 - UNK UNDERGROUND UNKNOWN (APPROX.)

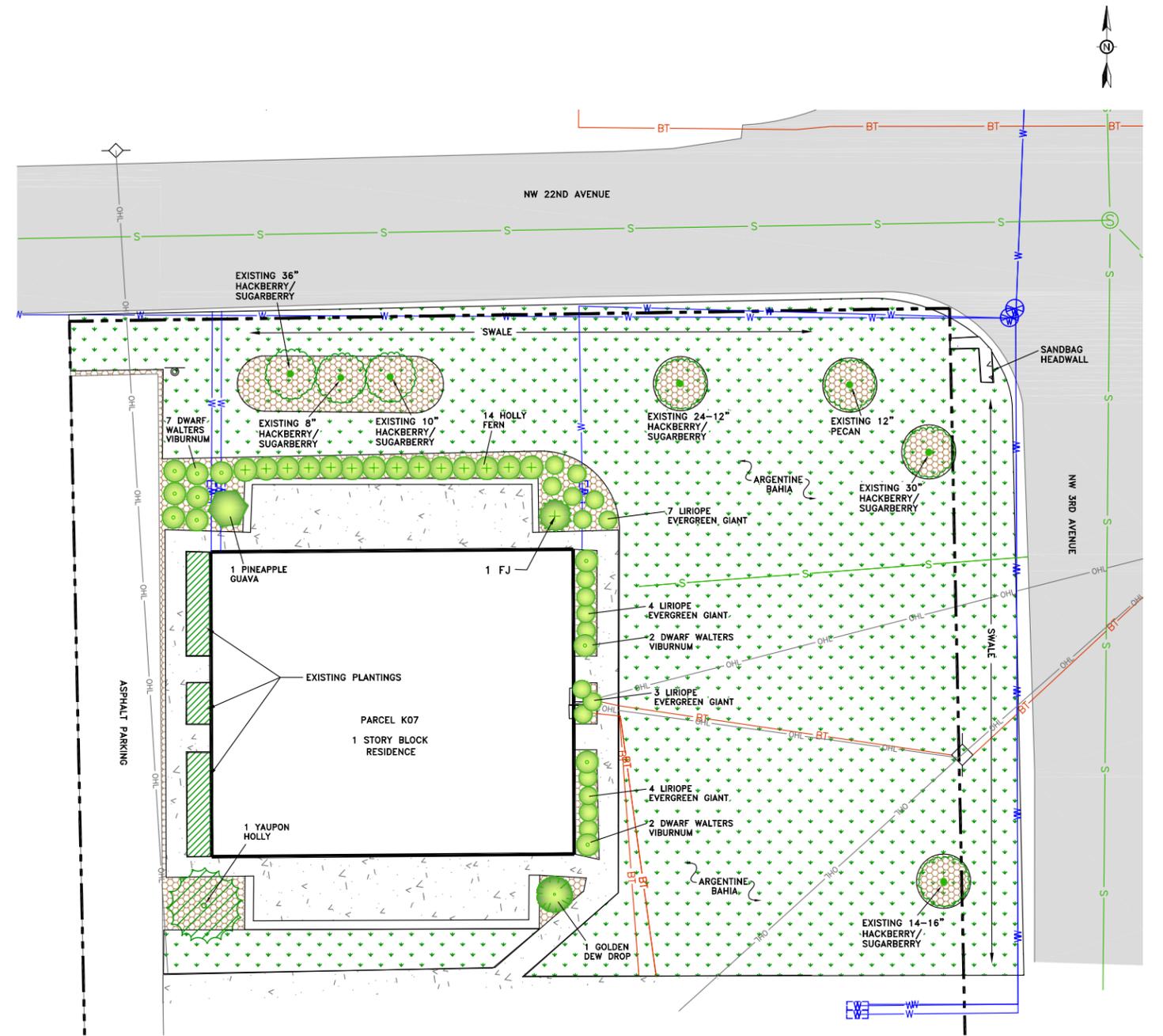


DATE	REVISION
8/15/2014	REVISION
8/18/2014	REVISION

TITLE: K02 SOIL RESORATION PLAN		FIGURE
LOCATION: 501 NW 23rd Avenue Gainesville, Florida		3-2
	APPROVED GC	DATE: 8-18-14
	CP - RK	
	PROJECT# 117-2201319	



EXISTING CONDITIONS AND SOIL REMOVAL PLAN

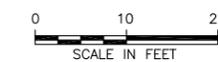


RESTORATION PLAN

- LEGEND**
- PROPERTY LINE
 - BRUSH OR RAKE TOPSOIL TO ROOT MAT. REPLACE IMMEDIATELY. AREA = 2,100 S.F.
 - 1 FT SOIL REMOVAL AREA AREA = 5,285 S.F.
 - PROPERTY SETBACK
 - LIMITED EXCAVATION WITHIN 2 FT OF PERMANENT BUILDINGS
 - LIMITED EXCAVATION WITHIN 1 FT OF PAVEMENT
 - SHRUB TO BE REMOVED
 - TREE OR SHRUB TO BE REMOVED
 - TEMPORARY BENCHMARK
 - PRE-CONSTRUCTION SURVEY DATA TOPOGRAPHIC CONTOUR
 - TREE TO BE PROTECTED WITH PROTECTION RADIUS AND TREE PROTECTION AREA
 - UTILITIES**
 - OHW OVERHEAD UTILITY LINES
 - SS UNDERGROUND SANITARY SEWER (APPROX.)
 - WM UNDERGROUND WATER MAIN (APPROX.)
 - GAS UNDERGROUND NATURAL GAS (APPROX.)
 - BT UNDERGROUND TELEPHONE (APPROX.)
 - EL UNDERGROUND ELECTRIC (APPROX.)
 - UNK UNDERGROUND UNKNOWN (APPROX.)
 - SILT FENCE OR STRAW WATTLES DURING WORK LENGTH = 215 FT
 - HIGH VISIBILITY FENCE DURING WORK LENGTH = 215 FT
- 0 10 20
SCALE IN FEET

- LEGEND**
- ARGENTINE BAHIA SOD
 - PINE BARK MULCH
 - PROPERTY LINE
 - NEW CHAIN LINK FENCE LENGTH 116 FEET
 - EXISTING CHAIN LINK
 - EXISTING TREE
 - NEW TREE
 - NEW TREE OR SHRUB

- UTILITIES**
- OHW OVERHEAD UTILITY LINES
 - SS UNDERGROUND SANITARY SEWER (APPROX.)
 - WM UNDERGROUND WATER MAIN (APPROX.)
 - GAS UNDERGROUND NATURAL GAS (APPROX.)
 - BT UNDERGROUND TELEPHONE (APPROX.)
 - EL UNDERGROUND ELECTRIC (APPROX.)
 - UNK UNDERGROUND UNKNOWN (APPROX.)



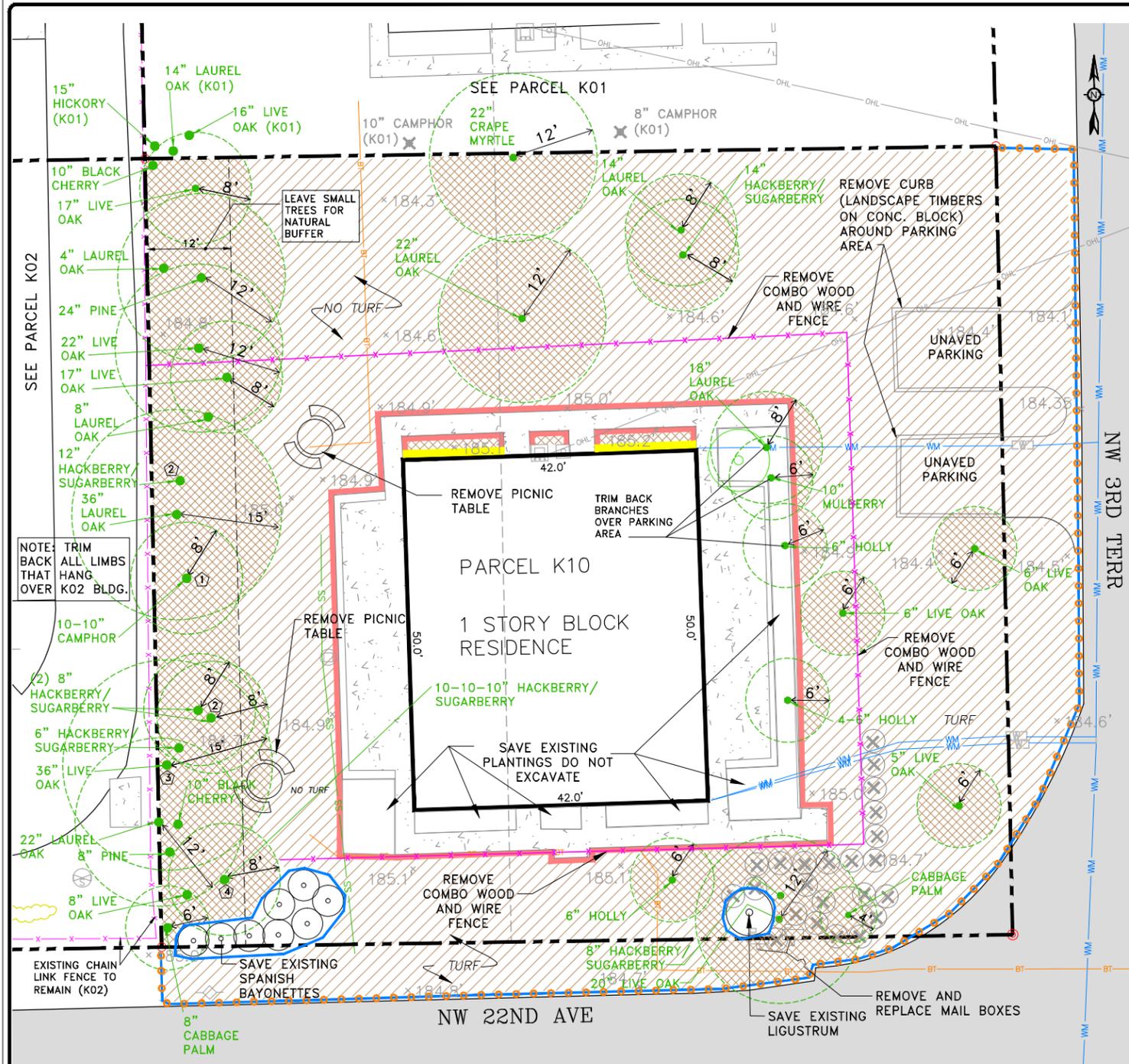
DATE	REVISION

TITLE: **K07 SOIL RESORATION PLAN**

LOCATION: **400 NW 21st Lane - Apts 49-52
Gainesville, Florida**

APPROVED	GC	FIGURE
DRAFTED	CP	
PROJECT#	117-2201319	
DATE	8-12-14	3-3

TETRA TECH



LEGEND

- PROPERTY LINE
- BRUSH OR RAKE TOPSOIL TO ROOT MAT. REPLACE IMMEDIATELY. AREA = 3,500 S.F.
- 1 FT SOIL REMOVAL AREA AREA = 7,100 S.F.
- EXISTING COMBO WOOD AND WIRE FENCE REMOVE AND REPLACE WITH 3' WOOD PICKET FENCE
- LIMITED EXCAVATION WITHIN 2 FT OF PERMANENT BUILDINGS
- LIMITED EXCAVATION WITHIN 1 FT OF PAVEMENT
- SHRUB TO BE REMOVED
- TREE OR SHRUB TO BE REMOVED
- TEMPORARY BENCHMARK
- PRE-CONSTRUCTION SURVEY DATA
- TOPOGRAPHIC CONTOUR
- TREE TO BE PROTECTED WITH PROTECTION RADIUS AND TREE PROTECTION AREA
- UTILITIES
 - OHL - OVERHEAD UTILITY LINES
 - SS - UNDERGROUND SANITARY SEWER (APPROX.)
 - WM - UNDERGROUND WATER MAIN (APPROX.)
 - GAS - UNDERGROUND NATURAL GAS (APPROX.)
 - BT - UNDERGROUND TELEPHONE (APPROX.)
 - EL - UNDERGROUND ELECTRIC (APPROX.)
 - UNK - UNDERGROUND UNKNOWN (APPROX.)
- SILT FENCE OR STRAW WATTLES DURING WORK LENGTH = 250 FT
- HIGH VISIBILITY CONSTRUCTION FENCE DURING WORK LENGTH = 250 FT

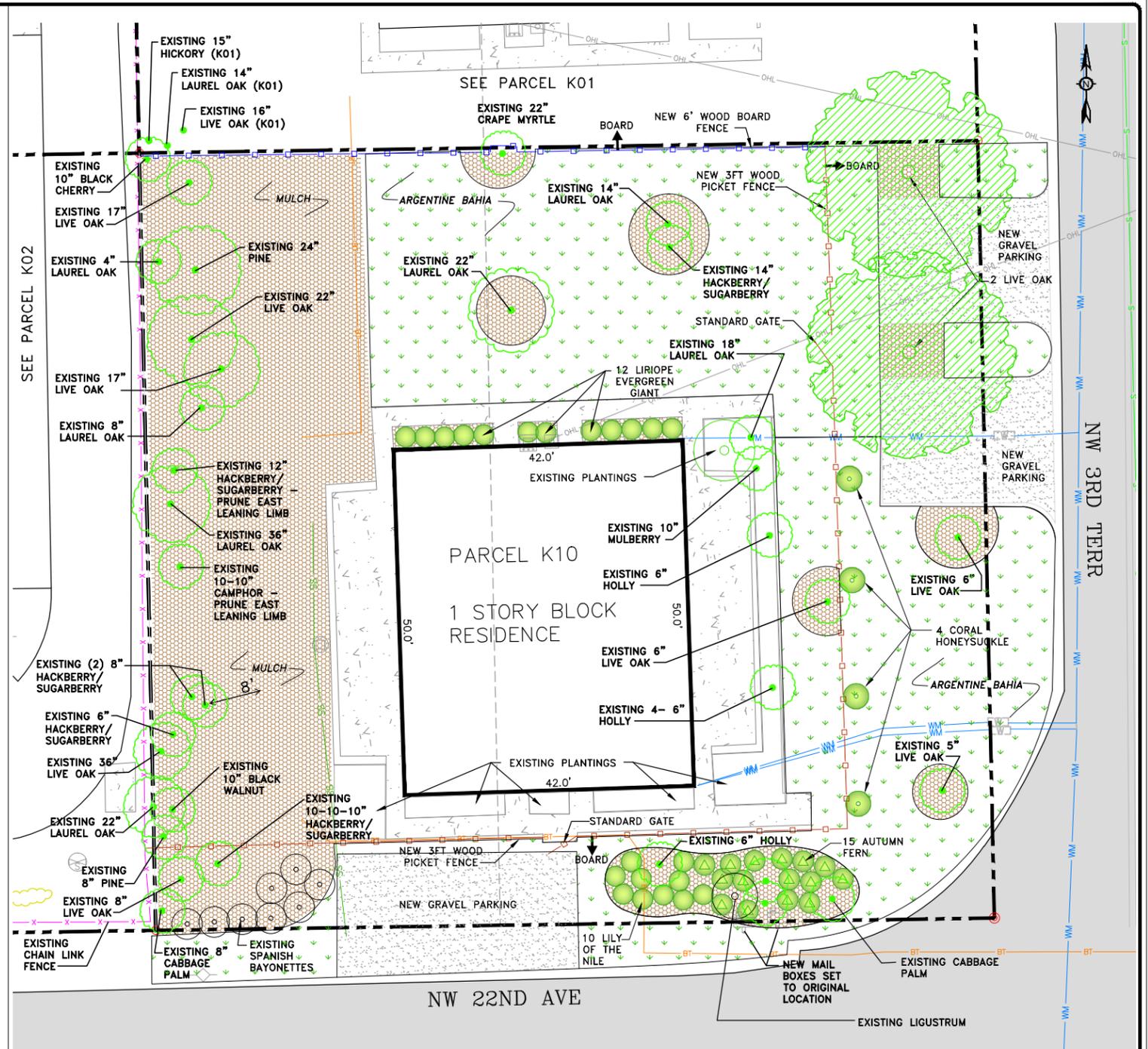
TREE NOTE:

- PRUNE EAST LEANING LIMB/TRUNK OF CAMPHOR
- LIMB UP HACKBERRY
- PRUNE LOWEST LIVE OAK LIMB OVER THE HOUSE
- LIMB UP HACKBERRY OVER PARKING AREA

GENERAL TREE NOTE: TRIM ALL LIMBS THAT HANG OVER K02 BLDG.

SCALE IN FEET

01/20/2014 10:00 AM K1019-2014-0018-19-RESTORATION.DWG



LEGEND

- GRAVEL DRIVEWAY AREA = 1,600 SF
- ARGENTINE BAHIA
- PINE BARK MULCH
- PROPERTY LINE
- NEW 3' PAINTED WHITE WOOD DOG EARED PICKET FENCE LENGTH = 200 FT.
- NEW 6' WOOD BOARD FENCE LENGTH = 100 FT.
- NEW TREE
- NEW TREE OR SHRUB
- EXISTING TREE
- UTILITIES
 - OHL - OVERHEAD UTILITY LINES
 - D - UNDERGROUND STORM DRAIN (APPROX.)
 - SS - UNDERGROUND SANITARY SEWER (APPROX.)
 - WM - UNDERGROUND WATER MAIN (APPROX.)
 - GAS - UNDERGROUND NATURAL GAS (APPROX.)
 - BT - UNDERGROUND TELEPHONE (APPROX.)
 - BE - UNDERGROUND ELECTRIC (APPROX.)
 - UNK - UNDERGROUND UNKNOWN (APPROX.)

RESTORATION PLAN

SCALE IN FEET

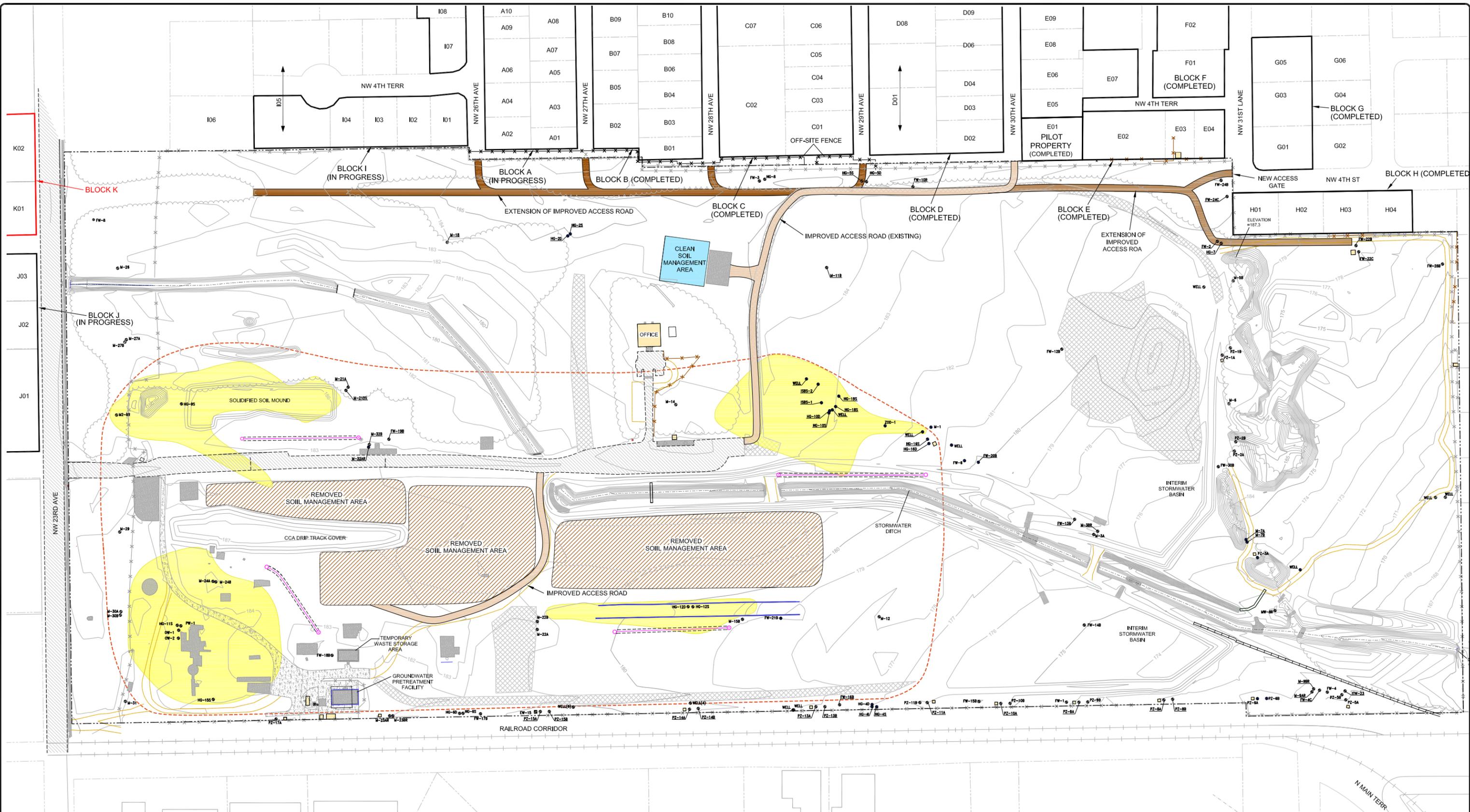
DATE	REVISION
8-19-2014	REVISION DESIGN CHANGE

TITLE: **K10 SOIL RESORATION PLAN**

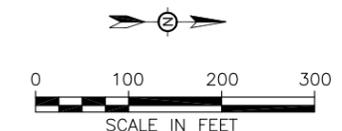
LOCATION: 2206 NW 3rd Avenue, Gainesville, Florida

APPROVED	GC	FIGURE
DRAFTED	RMK	3-4
PROJECT#	117-2201319	
DATE	08-19-2014	

TETRA TECH



LEGEND	
---	PROPERTY BOUNDARY
-175-	TOPOGRAPHIC CONTOUR
●	WELL
✕	STEEL FENCE
✕	WOOD FENCE
---	UNPAVED ROAD
---	ASPHALT ROAD
---	TREE CANOPY
---	PLANNED SUBSURFACE BARRIER
---	RAILROAD
□	BUILDING OUTLINE
■	ROCK
■	MULCH
■	CRUSHED CONCRETE
■	CONCRETE
---	HEADWALL
●	SOURCE AREA
---	GROUNDWATER COLLECTION DRAIN



TITLE: ON-PROPERTY MANAGEMENT AREAS AND ACCESS ROADS			
LOCATION: Cabot Carbon/Koppers Superfund Site Gainesville, Florida			
	APPROVED	GC	FIGURE 4
	DRAFTED	CP	
	PROJECT#	117-2201319	
DATE	8-18-14		

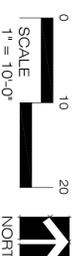
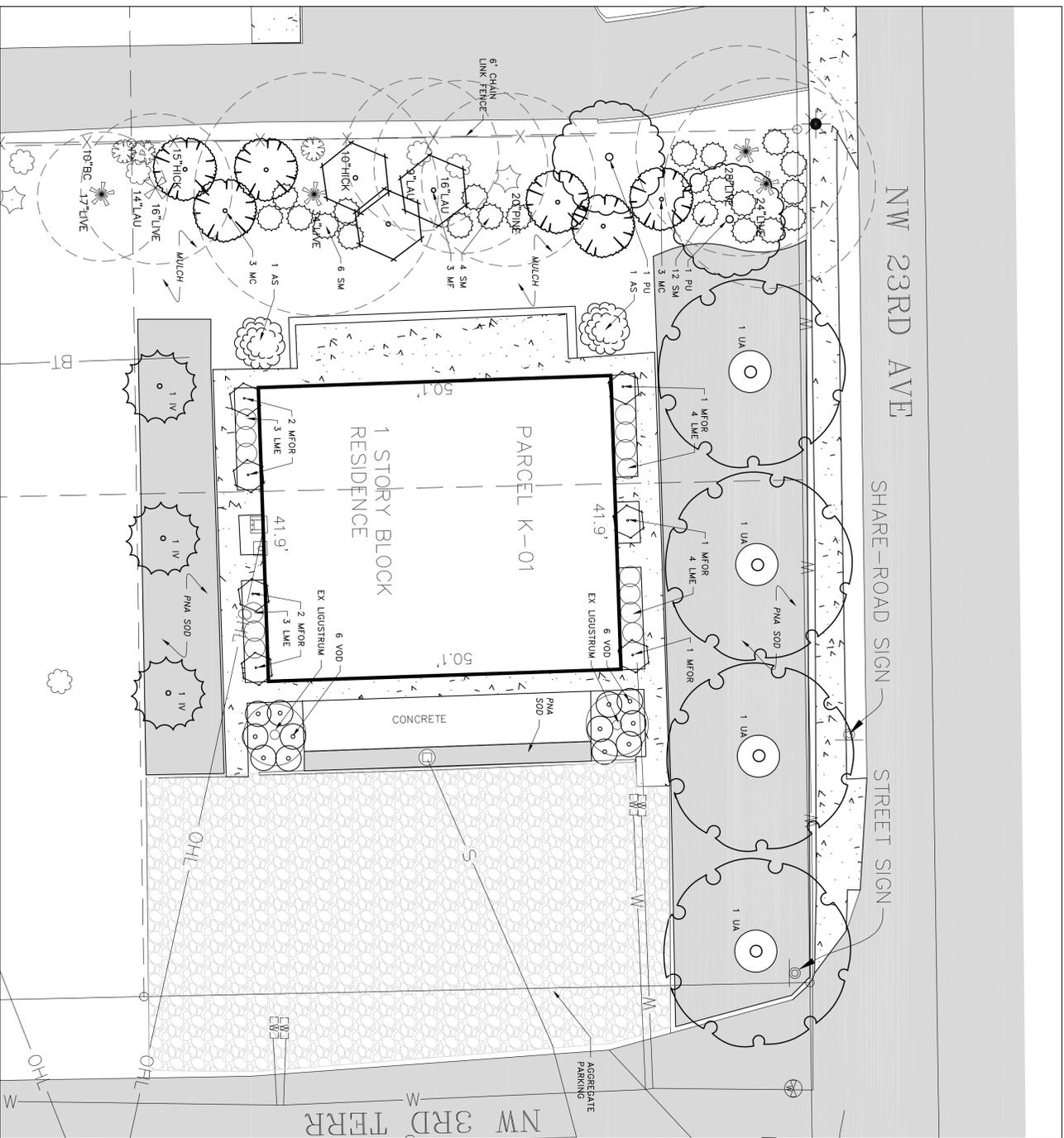
APPENDIX A.

PLANTING PLANS

NO.	DATE	COMMENTS
1	08/11/14	Compor. Turf

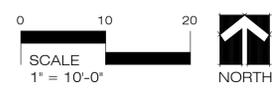
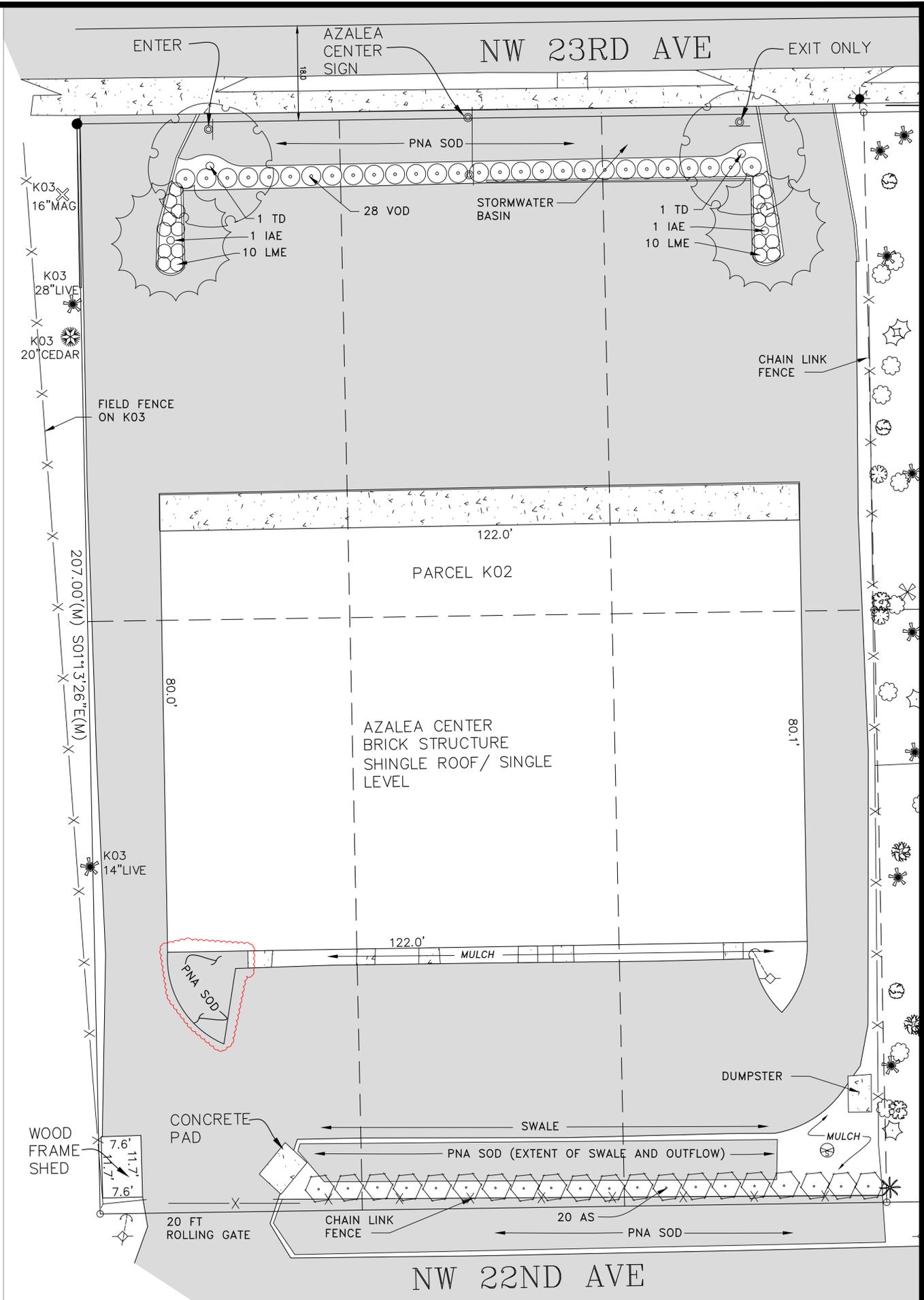
PLANT SCHEDULE

SYM	QTY	BOTANICAL NAME	COMMON NAME	MINIMUM CONTAINER	HT X WIDTH	SPACING	FLA NATIVE	DROUGHT TOLERANCE	COMMENTS
TREES									
IV	3	Ilex vomitoria	Yaupon Holly	15 Gal	6-8' x 3' (1.5" cal)	As Shown	Y	High	Female
MC	6	Myrica cerifera	Wax Myrtle	15 Gal	6-8' x 3' (Multi trunk)	As Shown	Y	Moderate	
PU	2	Prunus umbellata	Flattwoods Plum	15 Gal	6-8' x 3' (1.5" cal)	As Shown	Y	High	
UA	4	Ulmus alata	Winged Elm	15 Gal	6-8' x 3' (1.5" cal)	As Shown	Y	High	
SHRUBS									
AS	2	Acca sellowiana	Pineapple Guava	7 Gal	24" x 30"	As Shown	-	High	
MF	3	Myrcianthes fragrans	Simpson Stopper	7 Gal	36" x 30"	As Shown	Y	Moderate	
MFOR	7	Mahonia fortunei	Fortunes Mahonia	3 Gal	18" x 20"	4 O.C.	-	Moderate	
SM	22	Sabal minor	Blue Stem Palmetto	3 Gal	18" x 20"	4 O.C.	Y	High	
VOD	12	Viburnum obovatum 'Densa'	Dwarf Walters' Viburnum	3 Gal	14" x 16"	4 O.C.	Y	High	
GROUND COVERS									
LME	14	Liriope muscari 'Evergreen Giant'	Liriope Evergreen Giant	1 Gal	Full	2.5 OC.	-	Moderate	
TURF									
PNA	3,000 SF	Paspalum notatum 'Argentine'	Argentine Bahia						
MULCH									
	2,200 SF	Pine Bark Mulch							



PLANT SCHEDULE

SYM	QTY	BOTANICAL NAME	COMMON NAME	MINIMUM CONTAINER	HT X WIDTH	SPACING	FLA NATIVE	DROUGHT TOLERANCE
TREES								
IAE	2	Ilex attenuata 'East Palatka'	East Palatka Holly	15 Gal	6-8' x 3' (1.5" cal)	As Shown	Y	High
TD	2	Taxodium distichum	Bald Cypress	15 Gal	6-8' x 3' (1.5" cal)	As Shown	Y	Moderate
SHRUBS and GROUND COVERS								
AS	20	Acca sellowiana	Pineapple Guava	3 Gal	16" x 18"	5' O.C.	-	High
VOD	12	Viburnum obovatum 'Densa'	Dwarf Walter's Viburnum	3 Gal	14" x 16"	4' O.C.	Y	High
TURF								
PNA	2,300 SF	Paspalum notatum 'Argentine'	Argentine Bahia					
MULCH								
	2,500 SF	Pine Bark Mulch						



PREPARED BY:
ZAMIA DESIGN
 Landscape Architecture
 3459 NW 13th Avenue
 Gainesville, Florida 32605
 Ph. 352-373-8220 Fax 866-845-7717
 LC 28000252

PREPARED FOR:
TETRA TECH
 ALPHARETTA, GA

PROJECT:
KOPPERS SUPERFUND
 Stephen Foster Remediation
 Gainesville, FL

SHEET TITLE:

PLANTING PLAN
 Lot K-02

PROJECT PHASE:
Construction Documents

ISSUE DATE:
August 03, 2014

REVISIONS		
NO.	DATE	COMMENTS
1	8/11/14	LIGUSTRUM
2	8/19/14	ADD SOD

PROFESSIONAL SEAL:

LAWRENCE E. TEAGUE
 FLORIDA: LA0001582

PROJECT NUMBER:
13019.2

DRAWN BY: LH CHECKED BY: LET

SHEET NUMBER:
L-2

PREPARED BY:



3450 NW 13th Avenue
Gainesville, Florida 32605
Ph. 352-373-8220 Fax 866-945-7717
LC 26000252

PREPARED FOR:

TETRA TECH
ALPHARETTA, GA

PROJECT:

**KOPPERS
SUPERFUND**
Stephen Foster
Remediation
Gainesville, FL

SHEET TITLE:

PLANTING PLAN
Lot K-07

PROJECT PHASE:

Construction Documents

ISSUE DATE:

Aug 05, 2014

NO.	DATE	COMMENTS

PROFESSIONAL SEAL:

LAWRENCE E. TEAGUE
FLORIDA: LA0001582

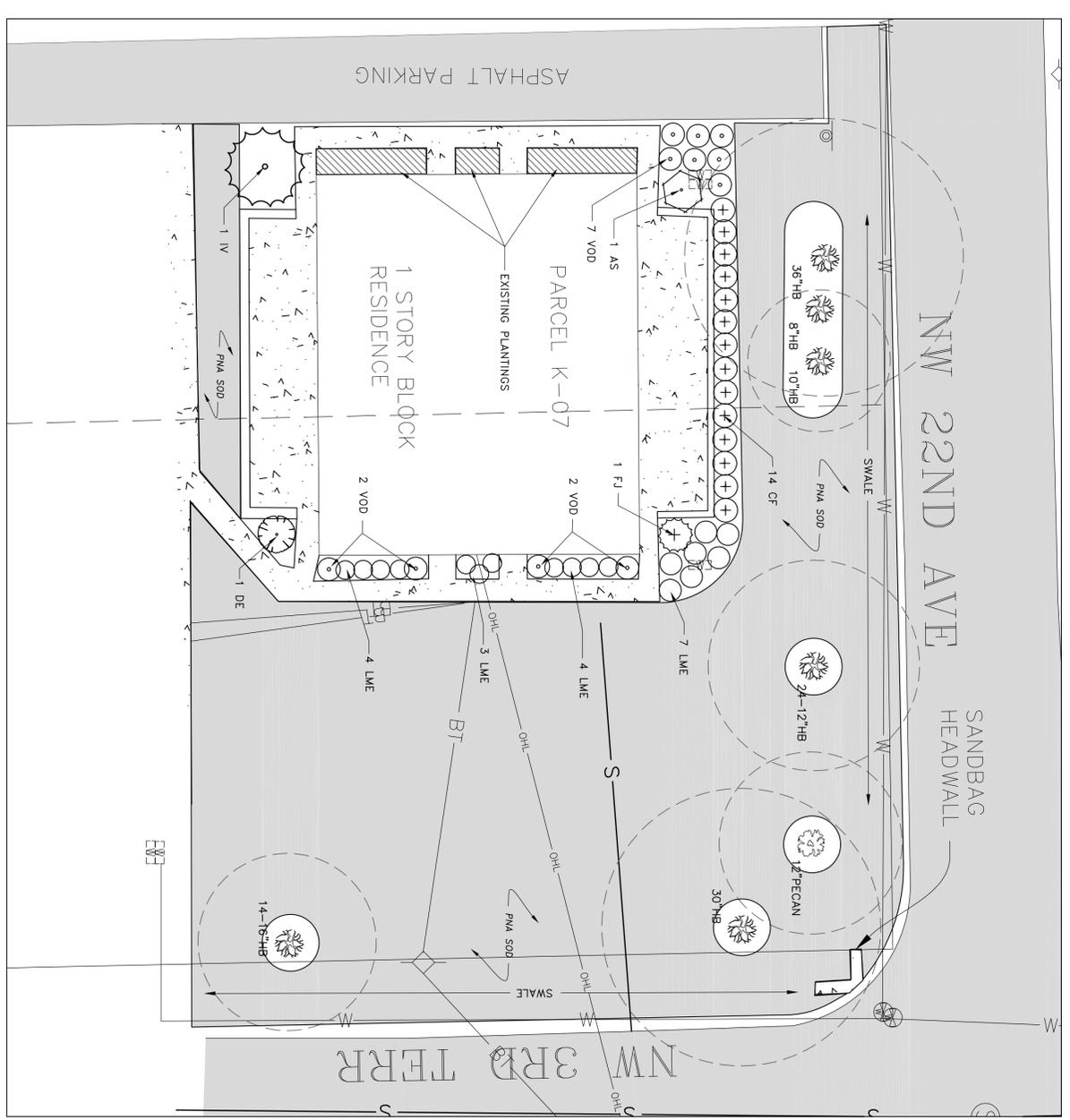
PROJECT NUMBER:
130192

DRAWN BY: LH
CHECKED BY: LET

SHEET NUMBER:
L-2

PLANT SCHEDULE

SYM	QTY	BOTANICAL NAME	COMMON NAME	MINIMUM CONTAINER	HT X WIDTH	SPACING	FLA NATIVE	DROUGHT TOLERANCE
TREES								
IV	1	Ilex vomitoria	Yaupon Holly	15 Gal	6-8' x 3'	As Shown	Y	High
SHRUBS and GROUND COVERS								
AS	1	Acca sellowiana	Pineapple Guava	7 Gal	30" x 24"	As Shown	-	Moderate
CF	14	Cyrtomium falcatum	Holly Fern	1 Gal	Full	2.5' O.C.	-	Moderate
DE	1	Duranta erecta 'Sapphire Shower'	Golden Dew Drop	3 Gal	18" x 20"	As Shown	-	Moderate
FJ	1	Fatsia japonica	Fatsia	3 Gal	18" x 20"	As Shown	-	Moderate
LME	18	Liriodendron 'Evergreen Giant'	Liriodendron Evergreen Giant	1 Gal	Full	2.5' O.C.	-	Moderate
VOD	11	Viburnum obovatum 'Densa'	Dwarf Walters Viburnum	3 Gal	18" x 20"	4' O.C.	Y	High
TURF								
PNA	6,400 SF	Paspalum notatum 'Argentine'	Argentine Bahia					
MULCH								
	950 SF	Pine Bark Mulch						



PREPARED BY:



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PREPARED FOR:

TETRA TECH
ALPHARETTA, GA

PROJECT:

**KOPPERS
SUPERFUND
Stephen Foster
Remediation**

Gainesville, FL

SHEET TITLE:

PLANTING PLAN
Lot K-10

PROJECT PHASE:

Construction Documents

ISSUE DATE:

August 11, 2014

NO.	DATE	COMMENTS
1	08/18/14	Parking

PROFESSIONAL SEAL:

LAWRENCE E. TEAGUE
FLORIDA: LA0001582

PROJECT NUMBER:
130192

DRAWN BY: LH
CHECKED BY: LET

SHEET NUMBER:

L-2

SYM	QTY	BOTANICAL NAME	COMMON NAME	MINIMUM CONTAINER	HT X WIDTH	SPACING	FLA NATIVE	DROUGHT TOLERANCE
TREES								
QV	2	Quercus virginiana	Live Oak	15 Gal	6-8' x 3' (1.5' Cal)	As Shown	Y	High
SHRUBS and GROUND COVERS								
AA	10	Agapanthus africanus	Lily of the Nile	1 Gal	Full	2.5' OC.	-	Moderate
DRY	15	Dryopteris erythrosora	Autumn Fern	1 Gal	Full	2.5' OC.	-	Moderate
LME	12	Liriope muscari 'Evergreen Giant'	Evergreen Giant	1 Gal	Full	2.5' OC.	-	Moderate
LS	4	Lonchea sempervivens	Coral Honeysuckle	3 Gal	Full	As Shown	Y	High
TURF								
PNA	6,100 SF	Paspalum notatum 'Argentine'	Argentine Bahia					
MULCH								
	3,400 SF	Pine Bark Mulch						

