Tennessee Department of Environment and Conservation
Division of Water Resources
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102
(615) 532-0625

APPLICATION FOR A STATE OPERATION PERMIT (SOP)

Type of application: ☐ New Permit ☐ Permit Reissuance ☒ Permit Modification

Permittee Identification: (Name of city, town, industry, corporation, individual, etc., applying, according to the provisions of Tennessee Code Annotated Section 69-3-108 and Regulations of the Tennessee Water Quality Control Board.)	
Permittee Name (applicant):	**Tennessee Wastewater Systems, Inc.**
Permittee Address:	**849 Aviation Parkway Smyrna, TN 37167**

Official Contact: **Charles Hyatt**	Title or Position: **President**		
Mailing Address: **851 Aviation Parkway**	City: Smyrna	State: **TN**	Zip: **37167**
Phone number(s): **(615) 220-7200**	E-mail:		

Optional Contact: **Jesse Hutcherson**	Title or Position: **Operator**		
Address: **849 Aviation Parkway**	City: **Smyrna**	State: **TN**	Zip: **37167**
Phone number(s): **615-220-7200**	E-mail:		

Application Certification (must be signed in accordance with the requirements of Rule 1200-4-5-.05)		
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.		
Name and title; print or type	Signature	Date
Charles Hyatt, President	C R. H	4-25-16

Permit Number: SOP-_____

Facility Identification:		**Existing Permit No.**	**05036**
Facility Name:	**Eudailey Treatment Facility**	County:	**Williamson**
Facility Address or Location:	**Eudailey -Covington Road Franklin, Tennessee**	Latitude:	**35.824540**
		Longitude:	**86.720350**

Name and distance to nearest receiving waters: **McCrory Creek - 100 feet (runs through property)**

If any other State or Federal Water/Wastewater Permits have been obtained for this site, list their permit numbers:

N/A

Name of company or governmental entity that will operate the permitted system: **TWS, Inc.**

Operator address: **851 Aviation Parkway, Smyrna, TN 37167**

Has the owner/operator filed for a Certificate of Convenience & Necessity (CCN), or an amended CCN, with the Tennessee Regulatory Authority (TRA) (may be required for collection systems and land application treatment systems)? ☐ Yes ☐ No ☒ N/A

If the applicant listed above does not yet own the facility/site or if the applicant will not be the operator, explain how and when the ownership will be transferred or describe the contractual arrangement and renewal terms of the contract for operations.

The TF is owned by TWS, Inc. The soil modification in this application will be deeded to TWS at recording of the final plat, adding 31.89 acres of suitable soil to the Regional facility.

Complete the following information explaining the entity type, number of design units, and daily design wastewater flow:

Entity Type	Number of Design Units		Flow (gpd)
☐ City, town or county	No. of connections:		
☐ Subdivision	No. of homes:	Avg. No. bedrooms per home:	
☐ School	No. of students:	Size of cafeteria(s): No. of showers:	
☐ Apartment	No. of units:	No. units with Washer/Dryer hookups: No. units without W/D hookups:	
☐ Commercial Business	No. of employees:	Type of business:	
☐ Industry	No. of employees:	Product(s) manufactured:	
☐ Resort	No. of units:		
☐ Camp	No. of hookups:		
☐ RV Park	No. of hookups:	No. of dump stations:	
☐ Car Wash	No. of bays:		
☒ Other	**Regional Facility**	**Regional treatment and drip disposal**	**0.785 MGD**

Describe the type and frequency of activities that result in wastewater generation.

Typical Domestic Wastewater - residential and light commercial development.

Permit Number: SOP-_____

Engineering Report (required for collection systems and/or land application treatment systems):	☒ N/A

☐ Prepared in accordance with Rule 1200-4-2-.03 and Section 1.2 of the Tennessee Design Criteria (see website for more information)
☒ Attached, or
☒ Previously submitted and entitled: **Eudailey TF** Approved? ☒ Yes. Date: **2005** ☐ No

Wastewater Collection System:	☐ N/A

System type (i.e., gravity, low pressure, vacuum, combination, etc.): Watertight effluent collection

System Description: Septic tank effluent with small diameter PVC pipe and required fittings

Describe methods to prevent and respond to any bypass of treatment or discharges (i.e., power failures, equipment failures, heavy rains, etc.): Tanks have a minimum of 24-36 hours storage in the STEP tank. Heavy rains have a minimal impact on a watertight collection system. Small generators can be connected to the pump stations and treatment system as necessary during an extended power outage.

In the event of a system failure describe means of operator notification: All pumps have redundancy & alarms.

List the **emergency** contact(s) (name/phone): Jesse Hutcherson /615-220-7200

For low-pressure systems, who is responsible for maintenance of STEP/STEG tanks and pumps or grinder pumps (list all contact information)?STEP and STEG tanks - TWS, Inc., 851 Aviation Parkway, Smyrna, TN 37167 (615) 220-7200

Approximate length of sewer (excluding private service lateral): As required

Number/hp of ~~l~~ift stations: 0 / Number/hp of lift pumps 0/0

Number/volume of low pressure and or grinder pump tanks 0/0
Number/volume septic tanks As required/1,500 gallon

Attach a schematic of the collection system. ☒ Attached

If this is a satellite sewer and you are tying in to another sewer system complete the following section, listing tie-in points to the sewer system and their location (attach additional sheets as necessary):

Tie-in Point	Latitude (xx.xxxx°)	Longitude (xx.xxxx°)
N/A		

Land Application Treatment System:	☐ N/A
Type of Land Application Treatment System: ☒ Drip ☐ Spray ☐ Other, explain:	
Type of treatment facility preceding land application (recirculating media filters, lagoons, other, etc.): MBR and Recirculating Media Filter	
Attach a treatment schematic. ☒ Attached	
Describe methods to prevent and respond to any bypass of treatment or discharges (i.e., power failures, equipment failures, heavy rains, etc.): Same as above	
For New or Modified Projects: Name of Developer for the project: Existing permit	
Developer address and phone number: Existing permit	
For land application, list: Proposed acreage involved: 50.35 +/- acres existing, 31.89 +/- expansion Inches/week gpd/sq.ft loading rate to be applied: 2.25 inches/week, 0.2 gpd/sf existing, and 0.25 gpd/sf in expansion soils	
Is wastewater disinfection proposed?	
☐ Yes Describe land application area access:	
☒ No Describe how access to the land application area will be restricted: Fence	

Attach required additional Engineering Report Information (see website for more information)

☒ Topographic map (1:24,000 scale presented at a six inch by six inch minimum size) showing the location of the project including quadrangle(s) name(s) GPS coordinates, and latitude and longitude in decimal degrees should also be included.

☒ Scaled layout of facility showing the following: lots, buildings, etc. being served, the wastewater collection system routes, the pretreatment system location, the proposed land application area(s), roads, property boundaries, and sensitive areas such as streams, lakes, springs, wells, wellhead protection areas, sinkholes and wetlands.

☒ Soils information for the proposed land disposal area in the form of a Water Pollution Control (WPC) Soils Map per Chapter 16 and 17 State of Tennessee Design Criteria for Sewage Work. The soils information should include soil depth (borings to a minimum of 4 feet or refusal) and soil profile description for each soil mapped.

☒ Topographic map of the area where the wastewater is to be land applied with no greater than ten foot contours presented at a minimum size of 24 inches by 24 inches.

☐ Describe alternative application methods based on the following priority rating: (1) connection to a municipal/public sewer system, (2) connection to a conventional subsurface disposal system as regulated by the Division of Groundwater Protection, and/or (3) land application.

For Drip Dispersal Systems Only: Unless otherwise determined by the Department, sewage treatment effluent wells, i.e, large capacity treatment/drip dispersal systems after approval of the SOP Application, will be issued an UIC tracking number and will be authorized as Permit by Rule per UIC Rule 1200-4-6-.14(2) and upon issue of a State Operating Permit and Sewage System Construction Approval by the Department. Describe the following:	☐ N/A
The area of review (AOR) for each Drip Dispersal System shall, unless otherwise specified by the Department, consist of the area lying within a one mile radius or an area defined by using calculations under 1200-4-6-.09 of the Drip Dispersal System site or facility, and shall include, but not be limited to general surface geographic features, general subsurface geology, and general demographic and cultural features within the area. Attach to this part of the application a general characterization of the AOR, including the following: (This can be in narrative form)	
☒ A general description of all past and present groundwater uses as well as the general groundwater flow direction and general water quality.	
☒ A general description of the population and cultural development within the AOR (i.e. agricultural, commercial, residential or mixed)	
☒ Nature of injected fluid to include physical, chemical, biological or radiological characteristics.	
☒ If groundwater is used for drinking water within the area of review, then identify and locate on a topographic map all groundwater withdrawal points within the AOR, which supply public or private drinking water systems. Or supply map showing general location of publicly supplied water for the area (this can be obtained from the water provider)	
☒ If the proposed system is located within a wellhead protection area or source water protection area designated by Rule 1200-5-1-.34, show the boundary of the protection area on the facility site plan.	
☒ Description of system, Volume of injected fluid in gallons per day based upon design flow, including any monitoring wells	
☒ Nature and type of system, including installed dimensions of wells and construction materials	

Pump and Haul:	☒ N/A
Reason system cannot be served by public sewer:	
Distance to the nearest manhole where public sewer service is available:	
When sewer service will be available:	
Volume of holding tank: gal.	
Tennessee licensed septage hauler (attach copy of agreement):	
Facility accepting the septage (attach copy of acceptance letter):	
Latitude and Longitude (in decimal degrees) of approved manhole for discharge of septage:	
Describe methods to prevent and respond to any bypass of treatment or discharges (i.e., power failures, equipment failures, heavy rains, etc.):	

Permit Number: SOP-_____

Holding Ponds (for non-domestic wastewater only):	☒ N/A
Pond use: ☐ Recirculation ☐Sedimentation ☐Cooling ☐Other (describe):	
Describe pond use and operation:	
If the pond(s) are existing pond(s), what was the previous use?	
Have you prepared a plan to dispose of rainfall in excess of evaporation? ☐ Yes ☐ No	
If so, describe disposal plan:	
Is the pond ever dewatered? ☐ Yes ☐ No	
If so, describe the purpose for dewatering and procedures for disposal of wastewater and/or sludge:	
Is(are) the pond(s) aerated? ☐ Yes ☐ No	
Volume of pond(s): gal. Dimensions:	
Is the pond lined (Note if this is a new pond system it must be lined for SOP coverage. Otherwise, you must apply for an Underground Injection Control permit.)? ☐ Yes ☐ No	
Describe the liner material (if soil liner is used give the compaction specifications):	
Is there an emergency overflow structure? ☐ Yes ☐ No	
If so, provide a design drawing of structure.	
Are monitoring wells or lysimeters installed near or around the pond(s)? ☐ Yes ☐ No	
If so, provide location information and describe monitoring protocols (attach additional sheets as necessary):	

Mobile Wash Operations:	☒ N/A

☐ Individual Operator ☐ Fleet Operation Operator

Indicate the type of equipment, vehicle, or structure to be washed during normal operations (check all that apply):

☐ Cars
☐ Trucks
☐ Trailers (Interior washing of dump-trailers, or tanks, is prohibited.)
☐ Other (describe):
☐ Parking Lot(s): sq. ft.
☐ Windows: sq. ft.
☐ Structures (describe):

Wash operations take place at (check all that apply):

☐ Car sales lot(s)
☐ Private industry lot(s)
☐ County(ies), list:
☐ Public parking lot(s)
☐ Private property(ies)
☐ Statewide

Wash equipment description:

☐ Truck mounted
☐ Rinse tank size(s) (gal.):
☐ Collection tank size(s) (gal.):
☐ Trailer mounted
☐ Mixed tanks size(s) (gal.):
Number of tanks per vehicle:

Pressure washer: psi (rated) gpm (rated)
☐ gas powered ☐ electric

Vacuum system manufacturer/model: Vacuum system capacity: inches Hg

Describe any other method or system used to contain and collect wastewater:

List the public sewer system where you are permitted or have written permission to discharge waste wash water (include a copy of the permit or permission letter):

Are chemicals pre-mixed, prior to arriving at wash location? ☐ Yes ☐ No

Describe all soaps, detergents, or other chemicals used in the wash operation (attach additional sheets as necessary):

Chemical name:	Manufacturer:	Primary CAS No. or Product No.

AREA OF REVIEW (AOR)

Groundwater uses within the AOR (past & present): Past and present groundwater uses within the AOR include residential and agricultural supply from private wells.

3.0 Groundwater General Description: The proposed region is a mix of pasture and mature woodlands. The attached maps indicate the proposed Eudailey TF wastewater treatment area drainage flow path migrates to McCrory Creek, and more generally toward the Harpeth River.

4.0 Population and Cultural Development: The majority of the Area of Review is agricultural land used primarily for pasture. Interstate 840 is located adjacent to the TF along the northern boundary. County planning data suggests the region as a growth area. The surrounding area is predominantly large tracts of pasture land, with large tract residential properties. It is expected that this area will see several of the current large tracts of land being subdivided for residential and light commercial developments.

5.0 Nature of Fluid: Eudailey TF is designed to serve an approximate peak flow of ~785,000 GPD of typical residential, and light commercial sanitary wastewater.

6.0 Public Water Supply: Milcrofton Utility District supplies public drinking water within the AOR.

Milcrofton Utility District
6333 Arno Road
Franklin, TN 37064
Phone: (615) 794-5947
Fax: (615) 791-9872
Email: info@milcrofton.com

7.0 Description of System: Approximately 785,000 GPD of treated wastewater will be pumped and then distributed to HDPE drip lines with pressure compensating emitters. The current drip lines are installed on 5-foot centers along the contours with the emitters spaced at 2-foot centers along the drip lines. Expansions to the drip system will use the same installation practice as the existing drip lines, and will be plowed into the soils that have been approved by a certified soil scientist and placed at an approximate depth of 7-8 inches below the ground surface. Distribution of the treated wastewater is managed through solenoid valves and controlled by a programmable PLC.

8.0 *Nature and Type of System:* The Eudailey TF State Operating Permit (SOP-05036) application was modified in March of 2016, with a permitted treatment and disposal capacity of 0.438 MGD. Currently, wastewater treatment

is accomplished by Recirculating Media Filter (RMF) technology, with a treatment capacity of 123,00 GPD. Eudailey TF additionally has constructed basins for Membrane Bioreactor (MBR) technology, with a treatment capacity of approximately 672,000 GPD, using new MBR technology. The MBR treatment is not currently being used, since the flows to the TF are too small for effective operation. Influent flow to the Eudailey RMF has a historical 7-day average of ~24,000 GPD. This represents approximately 20% of the designed daily treatment capacity of the RMF.

Treatment Capacity (0.459 MGD):

The current constructed treatment capacity of the Eudailey TF is:

672,000 GPD (MBR) + 123,000 GPD (RSF) = **795,000 GPD**

Treated wastewater from the regional area will first be pumped from numerous 1,500 gal water tight septic tanks, or tank sizes as required for commercial properties. Commercial properties will be required to size tanks at a minimum of 2.5Q detention time, in accordance with the Utility requirements of Tennessee Wastewater Systems, Inc. Septic Tank effluent is pumped from the septic tanks via a PVC gravity/pressure collection system, generally installed along the roadways and property lines, to the regional treatment facility. The treated water will then be discharged to the drip disposal fields.

Disposal Capacity (0.785 MGD):

The current constructed disposal capacity of the Eudailey TF is:

370,000 GPD

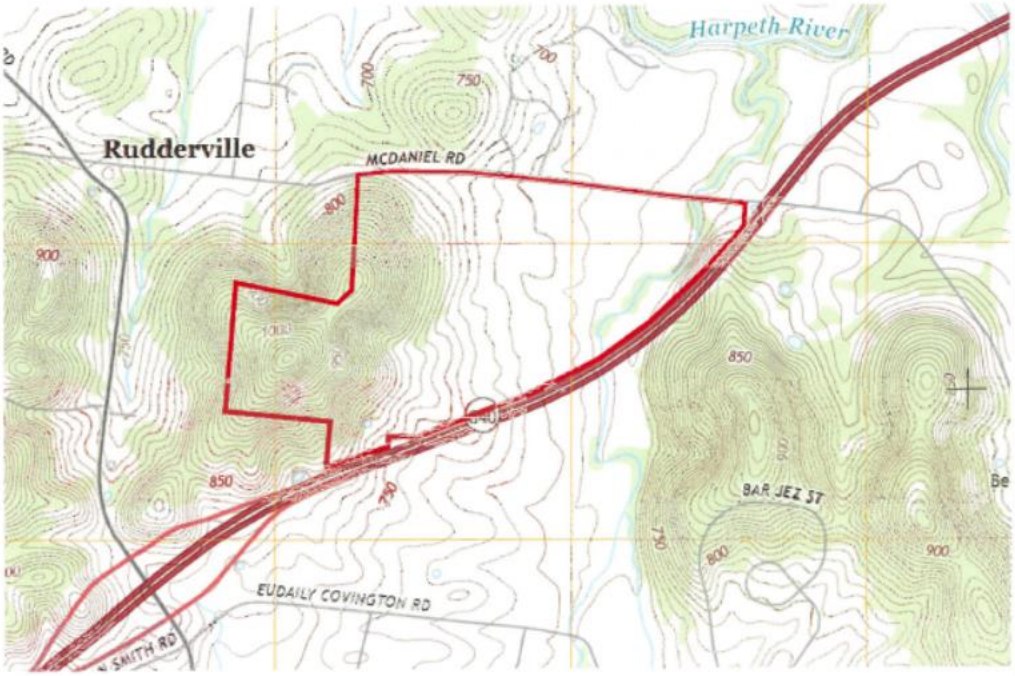
Currently, the Eudailey TF has drip irrigation piping installed to dispose of 370,000 GPD of treated water. Additional soils are currently available to install drip disposal piping.

This modification is proposing to add 31.89+/- acres of suitable disposal soils to the regional system. The additional soils will increase the disposal capacity of the system by 347,000 GPD+/-, giving a total disposal capacity of **785,000 GPD**. This will be the requested design daily flow for the reissue/modification SOP application.

The 31.89 +/- acres of soils identified to modify the capacity of Eudailey TF are located on three separate sites:

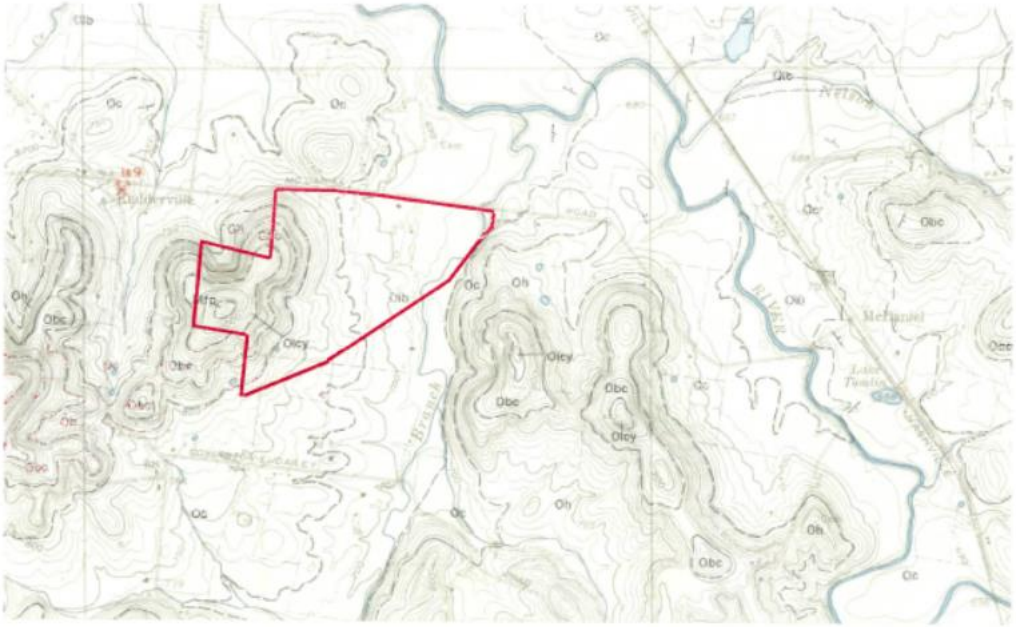
- Site #1 – 6281 McDaniel Road – 300,128 SF+/- suitable soils
- Site #2 – 6266 McDaniel Road – 653,400 SF+/- suitable soils
- Site #3 – 6269 Lampkins Bridge Road – 435,600 SF+/- suitable soils

SITE #1
6281 McDANIEL ROAD



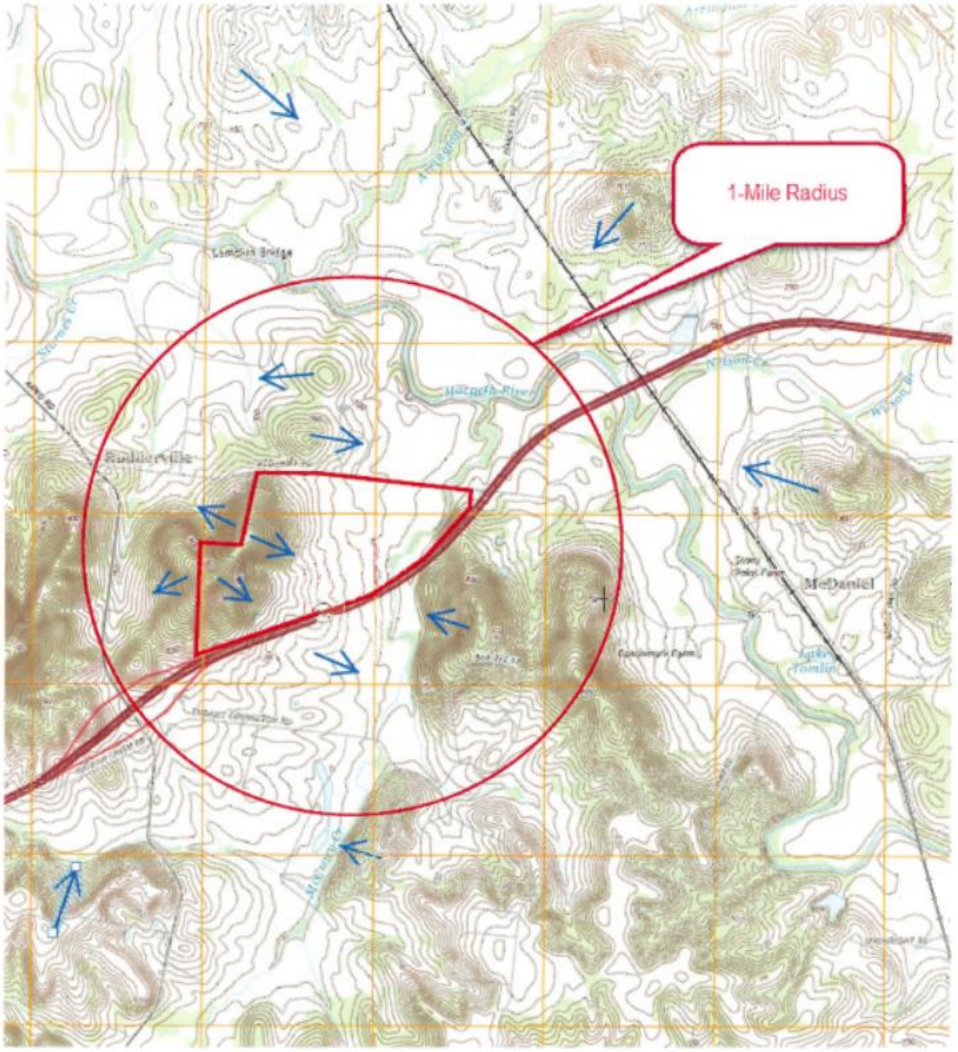
USGS MAP of the Area

SITE #1
6281 McDANIEL ROAD



Geologic Map

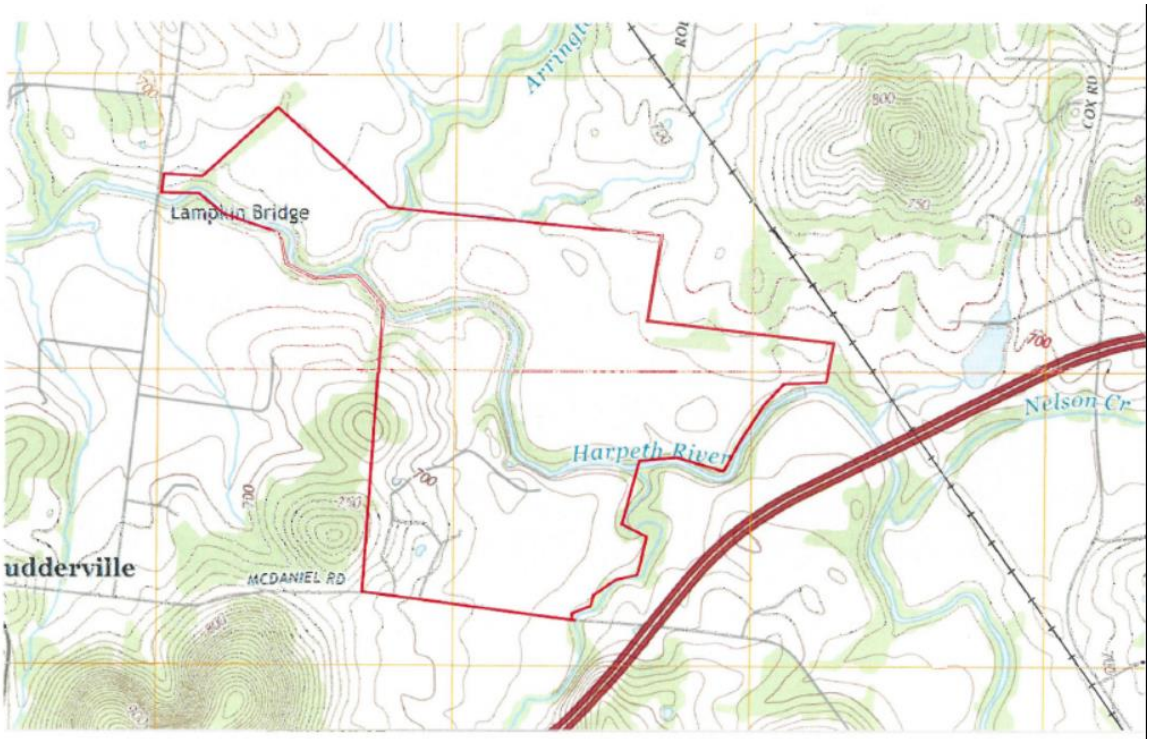
SITE #1
6281 McDANIEL ROAD



USGS Quad Map

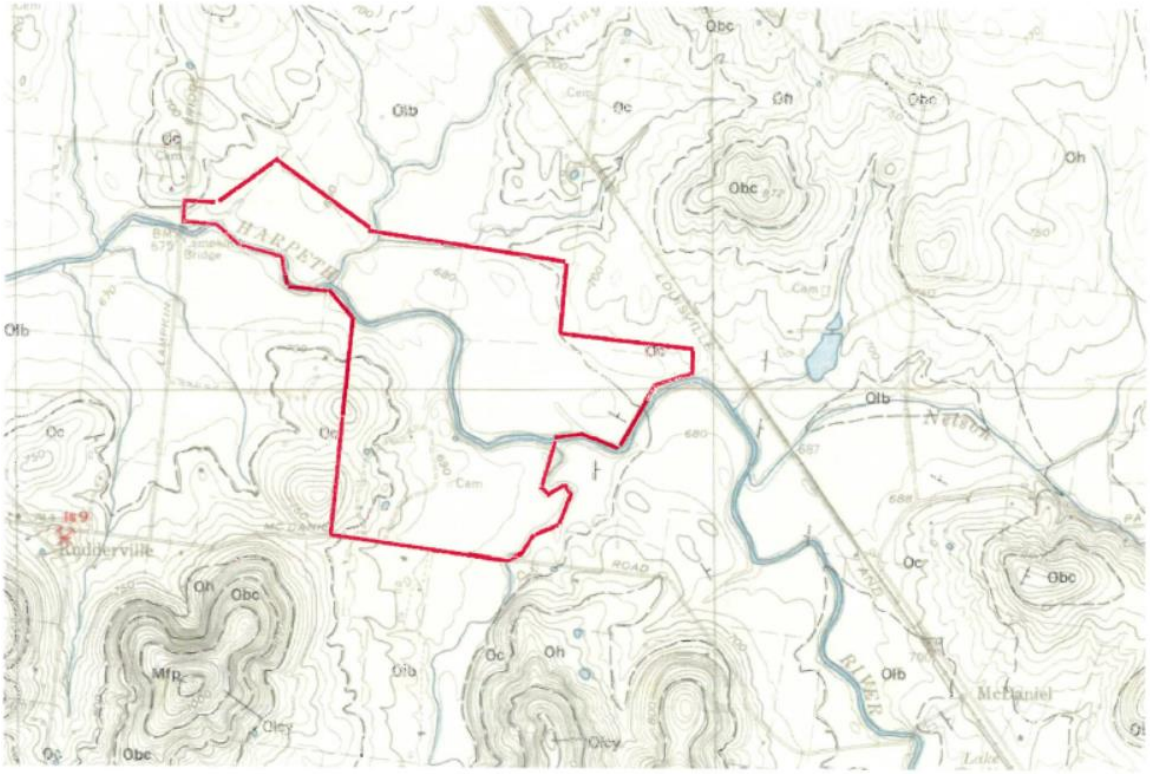
Watershed Drainage

SITE #2
6266 McDANIEL ROAD



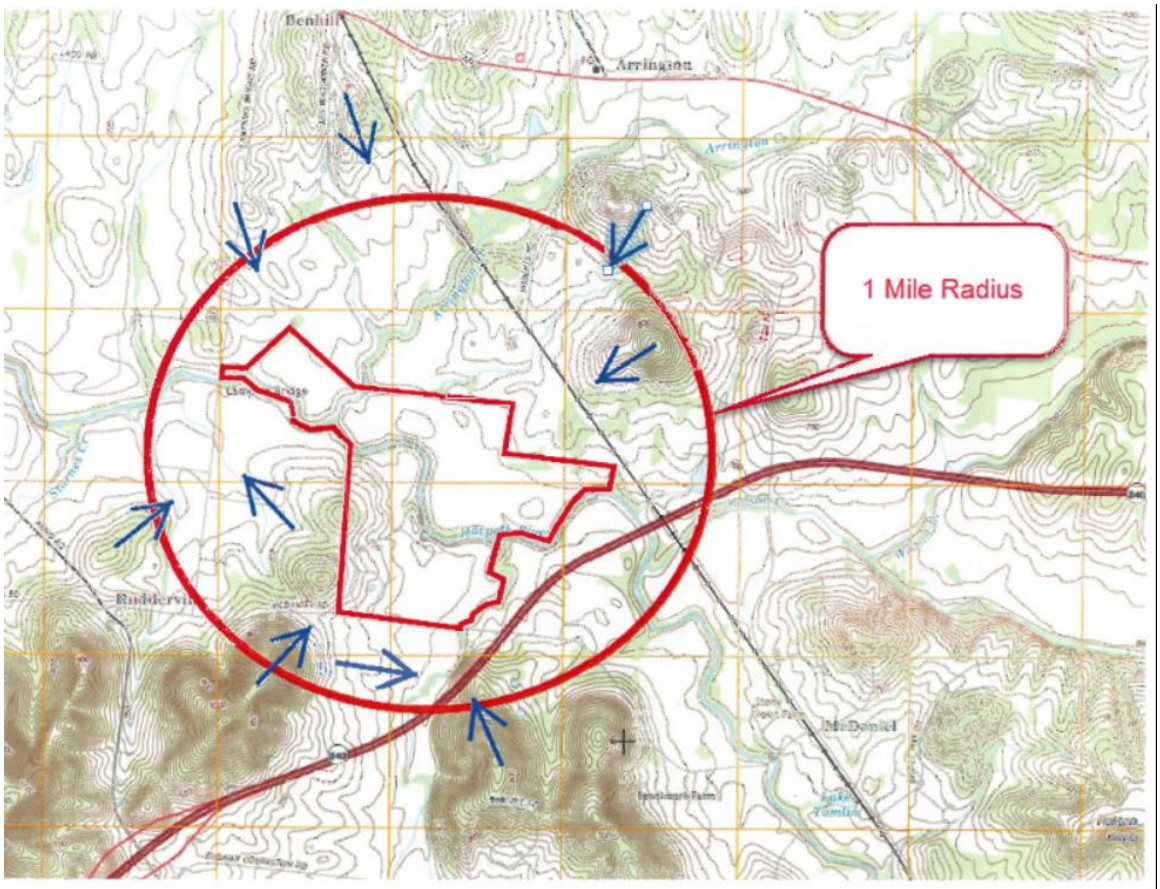
USGS MAP of the Area

SITE #2
6266 McDANIEL ROAD



Geologic Map

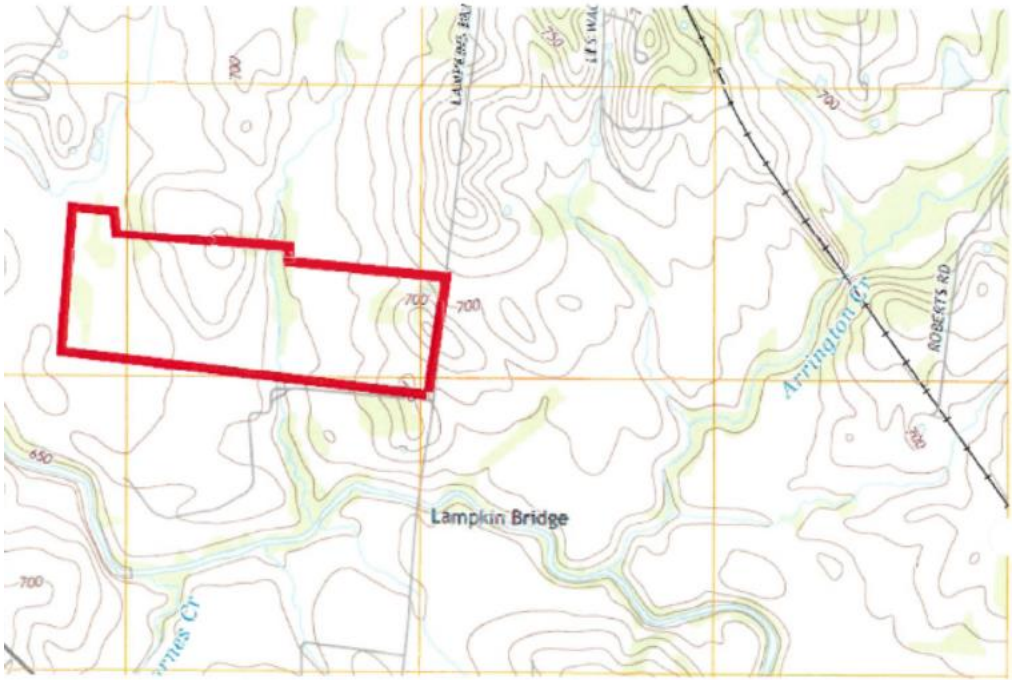
SITE #2
6266 McDANIEL ROAD



USGS Quad Map

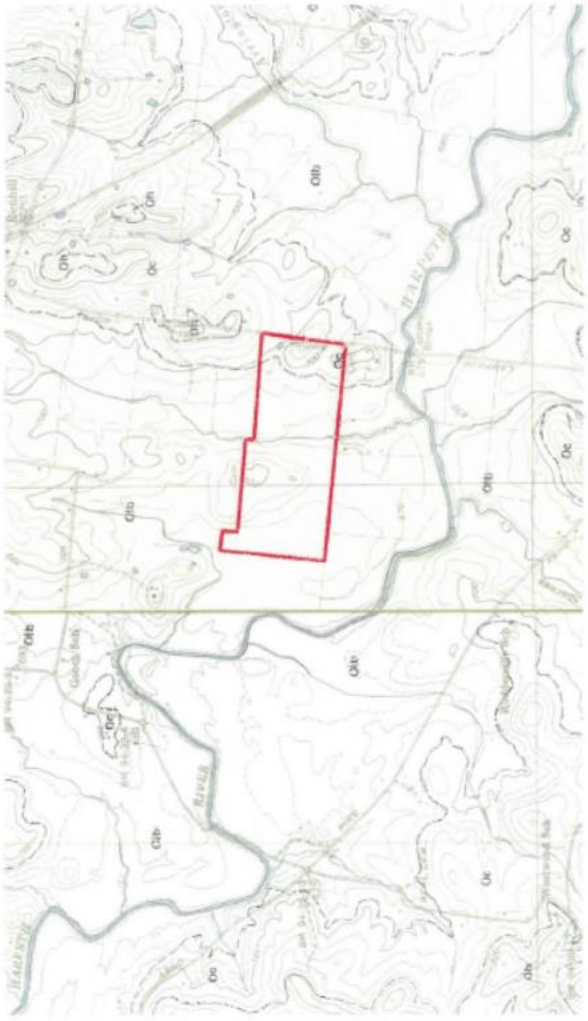
Watershed Drainage

SITE #3
6269 LAMPKINS BRIDGE ROAD



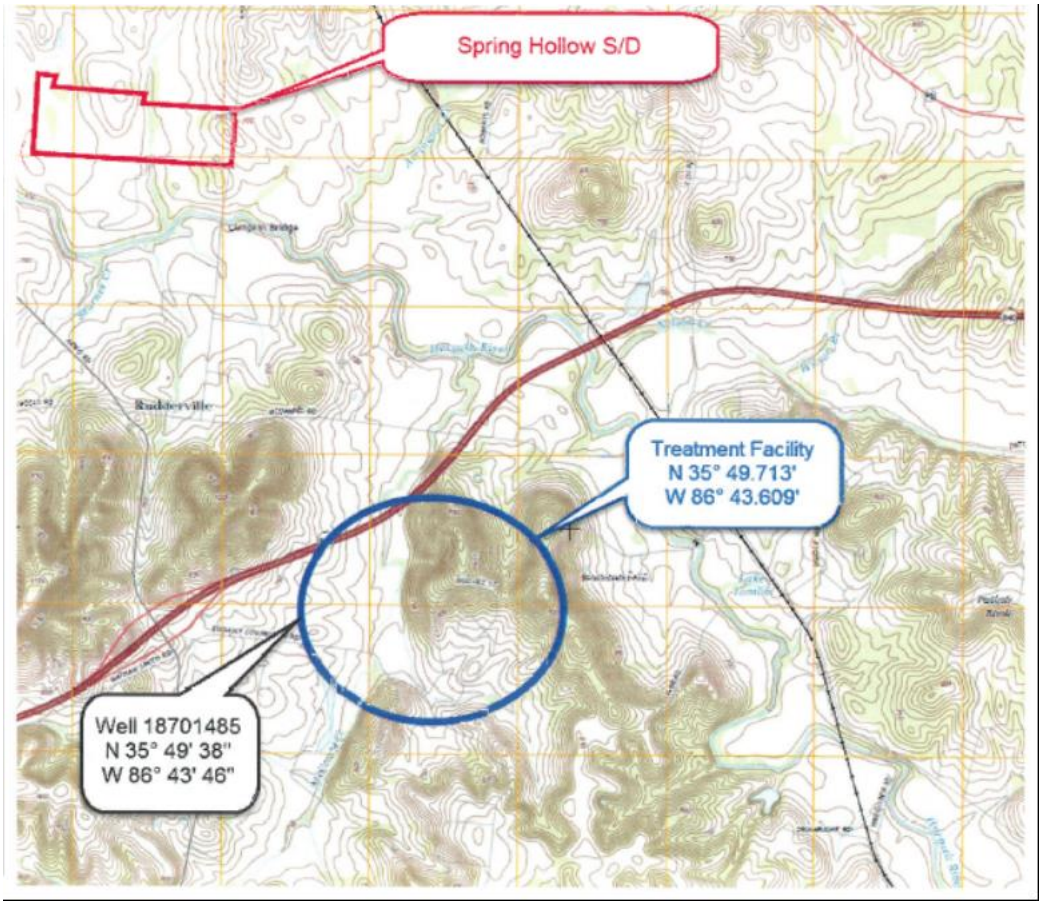
USGS MAP of the Area

SITE #3
6269 LAMPKINS BRIDGE ROAD



Geologic Map

SITE #3
6269 LAMPKINS BRIDGE ROAD



NORTH

0' 400' 800' 1600' 2400'

EXPANSION DISPOSAL SOILS

FM-10 FM-10 NEW FORCE MAIN – EUDAILEY NORTH (10"ø GREEN SDR21 PVC)

RM-8 RM-8 NEW REUSE MAIN – EUDAILEY NORTH (8"ø PURPLE SDR21 PVC)

SITE LAYOUT

SCALE: 1" = 800'

Tennessee 811
Know what's below.
Call before you dig.

IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION. THE LOCATION OF UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND POSSIBLY INCOMPLETE. THEREFORE CERTIFICATION TO THE LOCATION OF ALL UNDERGROUND UTILITIES IS WITHHELD.

EUDAILEY TF – SOP 05036
RSF, MBR, AND DISPOSAL SOILS WITH RESERVE AREAS
EXISTING PERMITTED CAPACITY – 438,000 GPD

EUDAILEY MBR

THE GROVE SUBDIVISION
(FORMERLY LAUREL COVE)

ARNO ROAD

EUDAILEY-COVINGTON ROAD

McDANIEL ROAD

LAMPKINS BRIDGE ROAD

WELL #18701609
BAD – FARM
PAGE 12 OF 31

EXISTING RSF

PROPOSED VINEYARD VALLEY
SUBDIVISION

FALLS GROVE SUBDIVISION
(FORMERLY GUFFEE FARMS)

SITE #1 – 6281 McDANIEL ROAD
SOP MODIFICATION ADDITION SOIL AREA
300,128 SF± SUITABLE SOILS
SEE SHEET 2

SITE #2 – 6266 McDANIEL ROAD
SOP MODIFICATION ADDITION SOIL AREA
653,400 SF± SUITABLE SOILS
SEE SHEET 3

SITE #3 – 6269 LAMPKINS BRIDGE ROAD
SOP MODIFICATION ADDITION SOIL AREA
435,600 SF± SUITABLE SOILS
SEE SHEET 4

APPLICATION CAPACITY:

CURRENT AVAILABLE SOILS = 2,193,428 SF±

2,193,428 SF± @ 0.2 GPD/SF LOADING RATE
= 438,685 GPD DISPOSAL CAPACITY

PROPOSED EXPANSION SOILS – 1,389,128 SF±

1,389,128 SF± @ 0.25 GPD/SF LOADING RATE
= 347,282 GPD ADDITIONAL DISPOSAL CAPACITY

TOTAL COMBINED CAPACITY –

= 438,685 GPD + 347,282 GPD
= ~785,000 GPD

EUDAILEY TREATMENT FACILITY SOP MODIFICATION SOIL AREAS FOR MILCROFTON SERVICE AREA		
EUDAILEY - COVINGTON ROAD WILLIAMSON COUNTY, TENNESSEE		
Checked by: RCD	**Drawn by:** BKT	**Date:** APRIL 22, 2016
Scale: AS NOTED	**PLANS PREPARED BY:** Adenus SOLUTIONS GROUP®	
Filename: EUDAILEY SOP MOD 2016		
SHEET 1 OF 4		

NORTH

0' 50' 100' 200' 300'

EXPANSION DISPOSAL SOILS

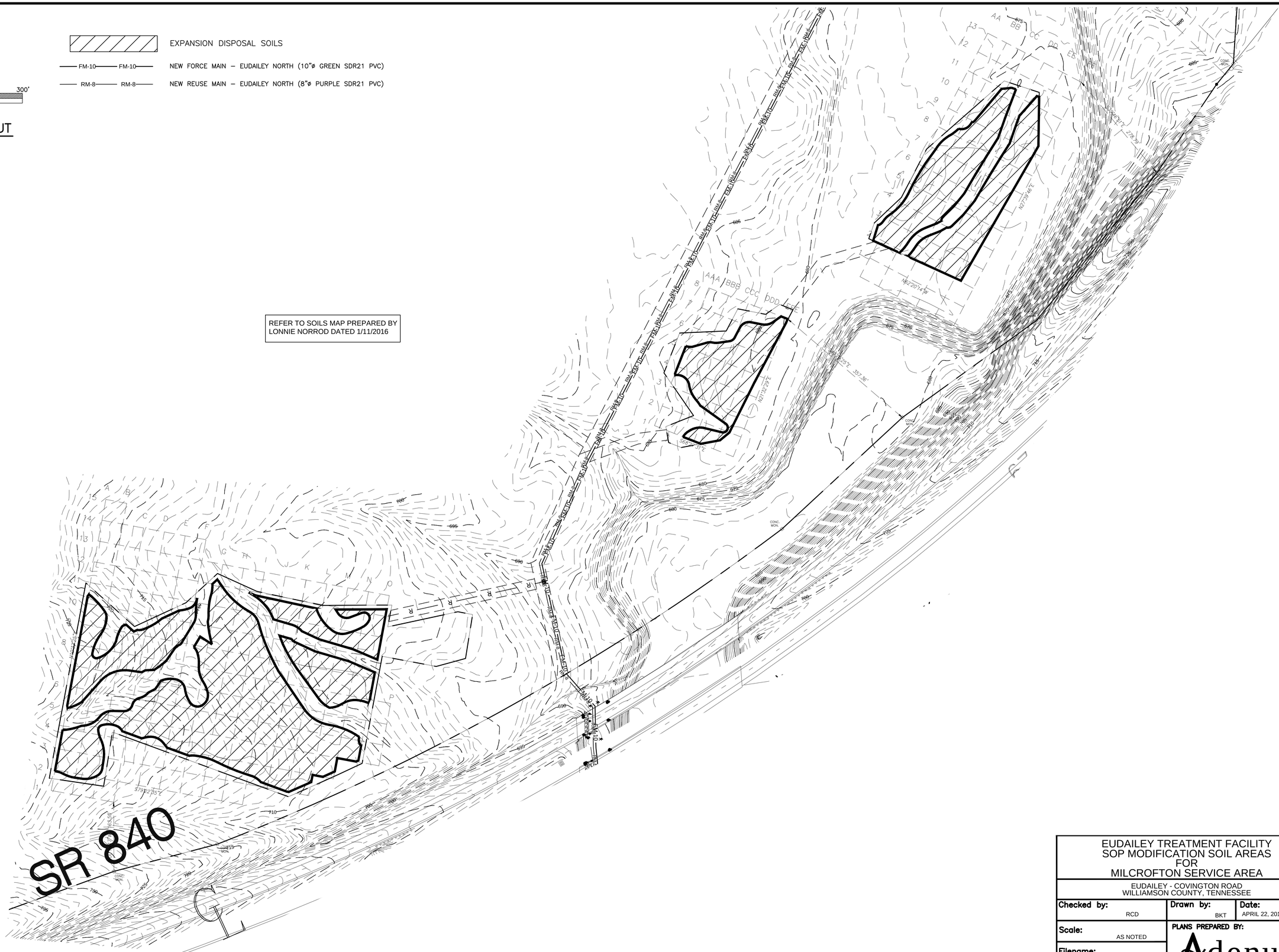
FM-10 FM-10 NEW FORCE MAIN – EUDAILEY NORTH (10"ø GREEN SDR21 PVC)

RM-8 RM-8 NEW REUSE MAIN – EUDAILEY NORTH (8"ø PURPLE SDR21 PVC)

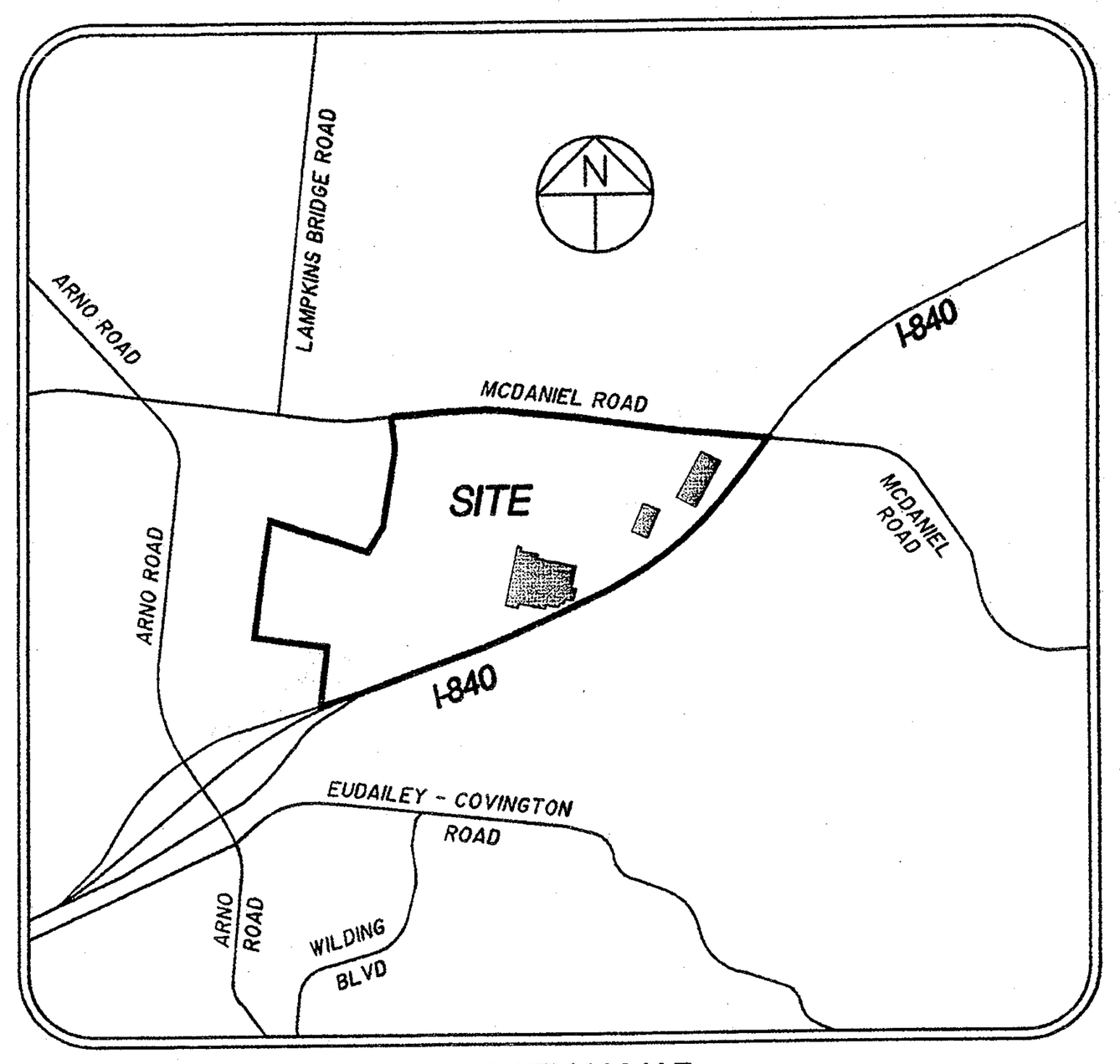
SITE #1 LAYOUT

SCALE: 1" = 100'

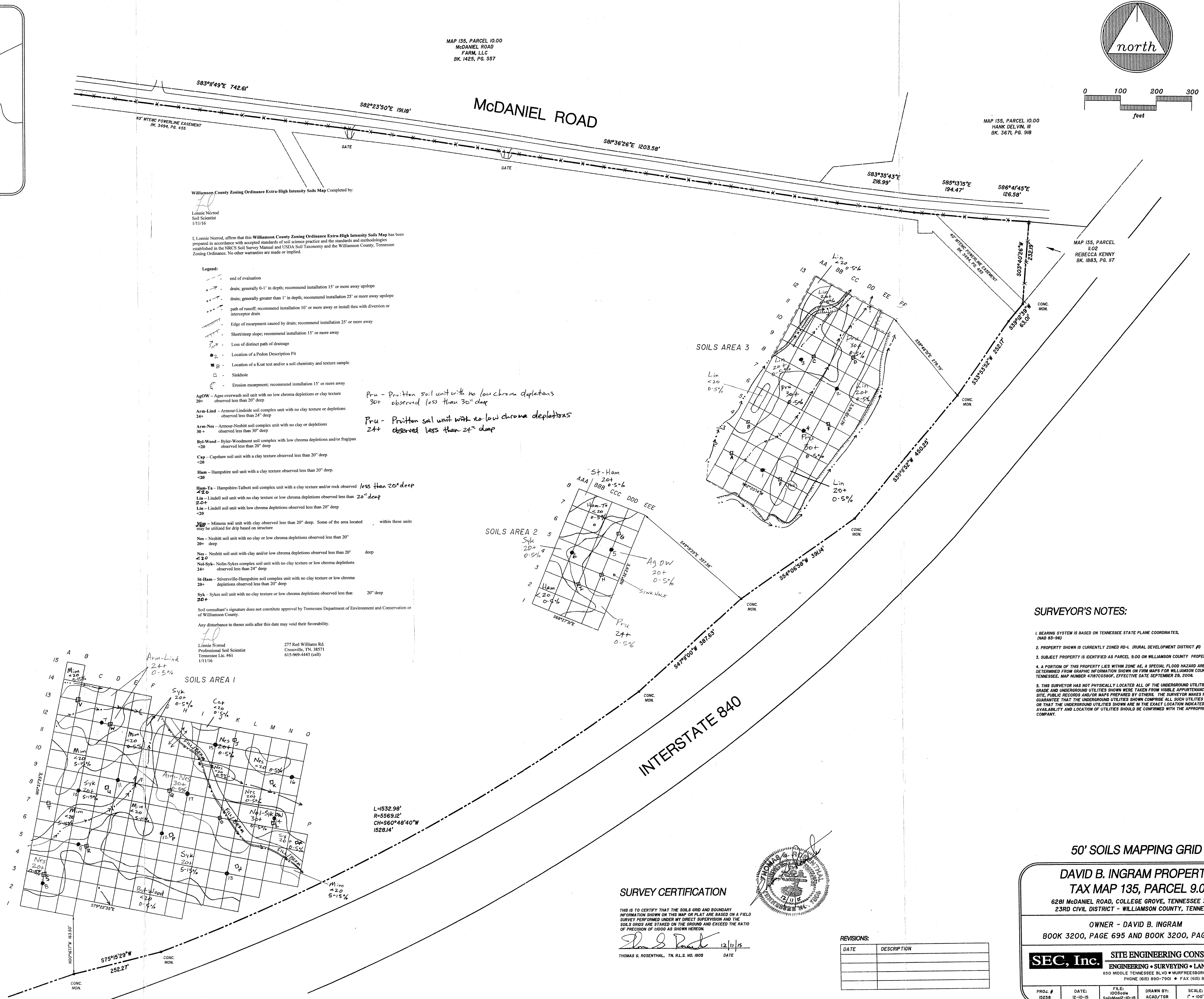
REFER TO SOILS MAP PREPARED BY
LONNIE NORROD DATED 1/11/2016



EUDAILEY TREATMENT FACILITY SOP MODIFICATION SOIL AREAS FOR MILCROFTON SERVICE AREA		
EUDAILEY - COVINGTON ROAD WILLIAMSON COUNTY, TENNESSEE		
Checked by: RCD	**Drawn by:** BKT	**Date:** APRIL 22, 2016
Scale: AS NOTED	**PLANS PREPARED BY:** Adenus SOLUTIONS GROUP®	
Filename: EUDAILEY SOP MOD 2016		
SHEET 2 OF 4		



LOCATION MAP
NOT TO SCALE



Williamson County Zoning Ordinance Extra-High Intensity Soils Map Completed by:

Lonnie Norrod
Soil Scientist
1/11/16

I, Lonnie Norrod, affirm that this **Williamson County Zoning Ordinance Extra-High Intensity Soils Map** has been prepared in accordance with accepted standards of soil science practice and the standards and methodologies established in the NRCS Soil Survey Manual and USDA Soil Taxonomy and the Williamson County, Tennessee Zoning Ordinance. No other warranties are made or implied.

Legend:

- end of evaluation
- drain; generally 0-1' in depth; recommend installation 15' or more away upslope
- drain; generally greater than 1' in depth; recommend installation 25' or more away upslope
- path of runoff; recommend installation 10' or more away or install thru with diversion or interceptor drain
- Edge of escarpment caused by drain; recommend installation 25' or more away
- Short/steep slope; recommend installation 15' or more away
- Loss of distinct path of drainage
- 2 - Location of a Pedon Description Pit
- B - Location of a Ksat test and/or a soil chemistry and texture sample
- Sinkhole
- Erosion escarpment; recommend installation 15' or more away

AgOW – Agee overwash soil unit with no low chroma depletions or clay texture
20+ observed less than 20" deep

Arm-Lind - Armour-Lindside soil complex unit with no clay texture or depletions
24+ observed less than 24" deep

Arm-Nes – Armour-Nesbitt soil complex unit with no clay or depletions
30 + observed less than 30" deep

Byl-Wood – Byler-Woodmont soil complex with low chroma depletions and/or fragipan
<20 observed less than 20" deep

Cap – Capshaw soil unit with a clay texture observed less than 20" deep
<20

Ham – Hampshire soil unit with a clay texture observed less than 20" deep.
<20

Ham-Ta – Hampshire-Talbott soil complex unit with a clay texture and/or rock observed less than 20" deep
<20

Lin – Lindell soil unit with no clay texture or low chroma depletions observed less than 20" deep
20+

Lin – Lindell soil unit with low chroma depletions observed less than 20" deep
<20

Mim – Mimosa soil unit with clay observed less than 20" deep. Some of the area located within these units
<20 may be utilized for drip based on structure

Nes – Nesbitt soil unit with no clay or low chroma depletions observed less than 20"
20+ deep

Nes - Nesbitt soil unit with clay and/or low chroma depletions observed less than 20" deep
<20

Nol-Syk– Nolin-Sykes complex soil unit with no clay texture or low chroma depletions
24+ observed less than 24" deep

St-Ham – Stiversville-Hampshire soil complex unit with no clay texture or low chroma
20+ depletions observed less than 20" deep

Syk – Sykes soil unit with no clay texture or low chroma depletions observed less than 20" deep
20+

Pru - Pruitton soil unit with no low chroma depletions
30+ observed less than 30" deep

Pru - Pruitton soil unit with no low chroma depletions
24+ observed less than 24" deep

Soil consultant's signature does not constitute approval by Tennessee Department of Environment and Conservation or of Williamson County.

Any disturbance to theses soils after this date may void their favorability.

Lonnie Norrod
Professional Soil Scientist
Tennessee Lic. #61
1/11/16

277 Red Williams Rd.
Crossville, TN. 38571
615-969-4443 (cell)

SURVEYOR'S NOTES:

1. BEARING SYSTEM IS BASED ON TENNESSEE STATE PLANE COORDINATES, (NAD 83-96)
2. PROPERTY SHOWN IS CURRENTLY ZONED RD-1. (RURAL DEVELOPMENT DISTRICT #1)
3. SUBJECT PROPERTY IS IDENTIFIED AS PARCEL 9.00 ON WILLIAMSON COUNTY PROPERTY MAP 135.
4. A PORTION OF THIS PROPERTY LIES WITHIN ZONE AE, A SPECIAL FLOOD HAZARD AREA, AS DETERMINED FROM GRAPHIC INFORMATION SHOWN ON FIRM MAPS FOR WILLIAMSON COUNTY, TENNESSEE, MAP NUMBER 47187C0380F, EFFECTIVE DATE SEPTEMBER 29, 2006.
5. THIS SURVEYOR HAS NOT PHYSICALLY LOCATED ALL OF THE UNDERGROUND UTILITIES. ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS AND/OR MAPS PREPARED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA OR THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. AVAILABILITY AND LOCATION OF UTILITIES SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY COMPANY.

SURVEY CERTIFICATION

THIS IS TO CERTIFY THAT THE SOILS GRID AND BOUNDARY INFORMATION SHOWN ON THIS MAP OR PLAT ARE BASED ON A FIELD SURVEY PERFORMED UNDER MY DIRECT SUPERVISION AND THE SOILS GRIDS ARE STAKED ON THE GROUND AND EXCEED THE RATIO OF PRECISION OF 1:1000 AS SHOWN HEREON.

THOMAS G. ROSENTHAL, TN. R.L.S. NO. 1805 — DATE 12/11/15

REVISIONS:

DATE	DESCRIPTION

50' SOILS MAPPING GRID

DAVID B. INGRAM PROPERTY
TAX MAP 135, PARCEL 9.0

6281 McDANIEL ROAD, COLLEGE GROVE, TENNESSEE 37046
23RD CIVIL DISTRICT - WILLIAMSON COUNTY, TENNESSEE

OWNER - DAVID B. INGRAM
BOOK 3200, PAGE 695 AND BOOK 3200, PAGE 702

SEC, Inc. SITE ENGINEERING CONSULTANTS
ENGINEERING • SURVEYING • LAND PLANNING
850 MIDDLE TENNESSEE BLVD • MURFREESBORO, TENNESSEE 37129
PHONE (615) 890-7901 • FAX (615) 895-2567

PROJ. #	DATE:	FILE:	DRAWN BY:	SCALE:	SHEET 1
15258	12-10-15	100Scale SoilsMap12-10-15	ACAD/TGR	1" = 100'	OF 1

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 1/7/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: flood plain

PIT #: 1

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Pruitton

DRAINAGE CLASS: well

CLASSIFICATION: fine-loamy

GROUND WATER: none

PARENT MATERIAL: alluvium

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES: low chroma matrix in burried A may be due to wetness

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				loam	weak	fine	granular	
Ap2	3-8				loam	weak	fine and medium	granular and subangular blocky	
Bw1	8-17				loam	weak	medium	subangular blocky	
Bw2	17-25				loam	weak	medium	subangular blocky	
Bw3	25-32				loam	weak	medium	subangular blocky	
Ab1	32-41	10YR 3/2			silt loam	weak	medium	subangular blocky	
Ab2	41-50	10YR 4/2			silt loam	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 1/7/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: flood plain

PIT #: 2

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Pruitton

DRAINAGE CLASS: well

CLASSIFICATION: fine-loamy

GROUND WATER: 2" of water in bottom of pit

PARENT MATERIAL: alluvium

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES: low chroma matrix in burried A may be due to wetness

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				loam	weak	fine	granular	
Ap2	3-8				loam	weak	fine and medium	granular and subangular blocky	
Bw1	8-16				loam	weak	medium	subangular blocky	
Bw2	16-25				loam	weak	medium	subangular blocky	
Bw3	25-31				loam	weak	medium	subangular blocky	
Ab1	31-36	10YR 3/2			silt loam	weak	medium	subangular blocky	
Ab2	36-50	10YR 4/2			silt loam	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 1/7/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: flood plain

PIT #: 1

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Deep Lindell/Pruitton

DRAINAGE CLASS: well/moderately well drained

CLASSIFICATION: fine-loamy

GROUND WATER: 2" of water in bottom of pit

PARENT MATERIAL: alluvium

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-4				loam	weak	fine	granular	
Ap2	4-13				loam	weak	medium	subagular blocky	
Bw1	13-20				loam	weak	medium	subangular blocky	
Bw2	20-27	10YR 5/3			silt loam	weak	medium	subangular blocky	
Bw3	27-34	10 YR 4/3			silt loam	weak	medium	subangular blocky	
Ab1	34-38	10 YR 4/2	10 YR 5/2	34"	silt loam	weak	medium	subangular blocky	
Bgb	38-47	10YR 4/1			silt loam	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 1/7/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: flood plain

PIT #: 4

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Pruitton

DRAINAGE CLASS: well

CLASSIFICATION: fine-loamy

GROUND WATER: none

PARENT MATERIAL: alluvium

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				loam	weak	fine	granular	
Ap2	3-6				loam	weak	fine and medium	granular and subangular blocky	
Bw1	6-9				loam	weak	medium	subangular blocky	
Bw2	9-13				loam	weak	medium	subangular blocky	
Bw3	13-21				loam	weak	medium	subangular blocky	
Bw4	21-29	10 YR 5/4			loam	weak	medium	subangular blocky	
Bw5	29-34	10 YR4/4			loam	weak	medium	subangular blocky	
Bw6	34-39	10 YR 5/4 10 YR 4/3 10 YR 5/3			loam	weak	medium	subangular blocky	mixed matrix
Bw7	39-46	10YR 5/4 10YR 5/3	common 10YR 5/2 common 7.5YR 5/6	39"	loam	weak	medium	subangular blocky	mixed matrix
Bg	46+	10YR 4/1			silt loam	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 1/7/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: flood plain

PIT #: 5

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Agee OW

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-loamy

GROUND WATER: none

PARENT MATERIAL: alluvium

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-4				loam	weak	fine	granular	
Ap2	4-8				loam	moderate	medium	subagular blocky	
Bw1	8-13				loam	moderate	medium	subangular blocky	
Bw2	13-20				loam	weak	medium	subangular blocky	
Bg1	20-30	10 YR 4/1			clay	weak	medium	subangular blocky	
Bg2	30-33	10 YR 4/1	many 7.5 YR 4/4		clay	weak	medium	subangular blocky	
BC	33-45	10YR5/1, 10YR3/3 10YR5/6, 10YR5/2			clay loam	weak	medium	subangular blocky	mixed matrix (4 matrix colors)

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 1/7/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: flood plain

PIT #: 6

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Pruitton

DRAINAGE CLASS: well

CLASSIFICATION: fine-loamy

GROUND WATER: none

PARENT MATERIAL: alluvium

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-5				loam	weak	fine	granular	
Ap2	5-10				loam	weak	medium	granular and subangular blocky	
Bw1	10-13				loam	weak	medium	subangular blocky	
Bw2	13-19				loam	weak	medium	subangular blocky	
Bw3	19-22				loam	weak	medium	subangular blocky	
Bw4	22-26				loam	weak	medium	subangular blocky	
Bw5	26-32	10YR 4/3	common 10YR 5/3 common 10YR 6/3		silt loam	weak	medium	subangular blocky	many iron masses
Bg1	32-39	10YR 4/2		32"	clay	weak	medium	subagular blocky	
BC	39-48	10YR 5/2 10YR 5/3	common 7.5YR 4/2, common 7.5YR 5/4 common 7.5YR 5/6		clay	weak	medium	subagular blocky	mixed matrix

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 1/7/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: flood plain

PIT #: 7

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Lindside

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-loamy

GROUND WATER: none

PARENT MATERIAL: alluvium

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-4				silt loam	weak	fine	granular	
Ap2	4-8				silt loam	weak and medium	fine and medium	granular and subangular blocky	
Bw1	8-14				silt loam	medium	medium	subangular blocky	
Bw2	14-19				silt loam	medium	medium	subangular blocky	
Bw3	19-25	10YR 3/3	common 10YR 5/3 common 10YR 6/3		silt loam	medium	medium	subangular blocky	
Bw4	25-31	7.5YR 4/2	common 7.5YR 5/2		silt loam	weak	medium	subangular blocky	
Bw5	31-36	7.5YR 4/4	common 7.5YR 5/8 common 7.5YR 5/2		silt loam	weak	medium	subangular blocky	
Bt	36-45	7.5YR 4/4	common 7.5YR 5/2		silty clay loam	weak	medium	subagular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Alan Rather

DATE: 1/8/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: upland

PIT #: 8

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-4				silt loam	weak	fine	granular	
Ap2	4-8				silt loam	weak	fine	granular	
Bt1	8-12				silty clay loam	medium	medium	subangular blocky	
Bt2	12-19				silty clay loam	medium	medium	subangular blocky	
Bt3	19-25	10YR 5/8	common 10YR 6/3		gravelly sitly clay loam	medium	medium	subangular blocky	many concretions and accumulations
Btx4	25-34	10YR 5/6 7.5YR 5/6	common 10YR 6/2 common 10YR 6/3	25"	silty clay loam	medium	medium	subangular blocky	
2Bt5	34-42				clay	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Alan Rather

DATE: 1/8/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: upland

PIT #: 9

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-sitly

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: moderate

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-5				silt loam	weak	fine and medium	granular and subangular blocky	
Bt1	5-10				silty clay loam	medium	medium	subagular blocky	
Bt2	10-15				silty clay loam	medium	medium	subangular blocky	
Bt3	15-23	10YR 5/8	common 10YR 6/3		silty clay loam	weak	medium	subangular blocky	common concretions and masses
Bt4	23-30	10YR 5/6 7.5YR 5/6	Common 10YR 6/2 common 10YR 6/3	23"	silty clay loam	medium	medium	subangular blocky	many concretions and masses
Btx5	30-40	10YR 5/8 7.5YR 5/8	many 10YR 6/2 many 10YR 6/3		silty clay loam	medium	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Alan Rather

DATE: 1/8/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: upland

PIT #: 10

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Deep Nesbitt

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-sitly

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-5				silt loam	weak and medium	fine and medium	granular and subangular blocky	
Ap2	5-12				silt loam	weak	medium	subagular blocky	
BA	12-21				silt loam	medium	medium	subangular blocky	
Bt1	21-31	7.5YR 5/6			silty clay loam	medium	medium	subangular blocky	few masses and accumulations
Btx2	31-38	7.5 YR 5/6	few 10YR 6/3		silty clay loam	medium	medium	subangular blocky	many masses and accumulations
2Bt3	38-43				clay	medium	medium	subangular blocky	many masses and accumulations

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Alan Rather

DATE: 1/8/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: upland

PIT #: 11

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes

DRAINAGE CLASS: well drained

CLASSIFICATION: fine-sitly

GROUND WATER: none

PARENT MATERIAL: colluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-5				silt loam	medium	medium	subangular blocky	
AB	5-13				silt loam	medium	medium	subagular blocky	
Bt1	13-23				silty clay loam	medium	medium	subangular blocky	
Bt2	23-31				silty clay loam	medium	medium	subangular blocky	common masses and concentrations
Bt3	31-43				silty clay loam	weak	medium	subangular blocky	many masses and concentrations

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Alan Rather

DATE: 1/8/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: upland

PIT #: 12

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes

DRAINAGE CLASS: well drained

CLASSIFICATION: fine-sitly

GROUND WATER: none

PARENT MATERIAL: colluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-11				silt loam	medium	medium	subagular blocky	
Bt1	11-25				silty clay loam	medium	medium	subangular blocky	
Bt2	25-34				silty clay loam	medium	medium	subangular blocky	
Bt3	34-40				gravelly clay loam	medium	medium	subangular blocky	
2Bt4	40-46	5YR 5/6	common 5YR 6/2	40"	clay	weak	medium	subangular blocky	common concretions

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Alan Rather

DATE: 1/8/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: upland

PIT #: 13

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes

DRAINAGE CLASS: well drained

CLASSIFICATION: fine-sitly

GROUND WATER: none

PARENT MATERIAL: colluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-9				silt loam	medium	medium	subagular blocky	
Bt1	9-13				silty clay loam	medium	medium	subangular blocky	
Bt2	13-19				silty clay loam	medium	medium	subangular blocky	
Bt3	19-25				silty clay loam	medium	medium	subangular blocky	
Bt4	25-33				gravelly silty clay loam	medium	medium	subangular blocky	
Bt5	33-37				silty clay loam	medium	medium	subagular blocky	
Bt6	37-42	5YR 5/8	common 7.5YR 6/2 common 7.5YR 6/3		silty clay loam	medium	medium	subagular blocky	few concentration

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Alan Rather

DATE: 1/8/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: upland

PIT #: 14

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes Overwash

DRAINAGE CLASS: well drained

CLASSIFICATION: fine-sitly

GROUND WATER: none

PARENT MATERIAL: colluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-12				silt loam	weak and medium	fine and medium	granular and subangular blocky	
Ab	12-18				silt loam	weak	medium	subangular blocky	
BAb	18-24				silt loam	weak	medium	subangular blocky	
Btb1	24-31				silty clay loam	medium	medium	subangular blocky	
Btb2	31-40				clay	medium	medium	subangular blocky	
C	40-45				gravelly silty clay loam	massive		sturctureless	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry, Lonnie Norrod and Alan Rather

DATE: 1/7/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: terrace

PIT #: 15

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-sitly

GROUND WATER: none

PARENT MATERIAL: alluvuial/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-6				silt loam	weak	fine	granular	
Ap2	6-11				silt loam	medium	medium	subangular blocky	
Bt1	11-16				silty clay loam	medium	medium	subangular blocky	
Bt2	16-24				silty clay loam	medium	medium	subangular blocky	
Btx3	24-30	7.5YR 5/4	few 7.5YR 5/2	24"	silty clay loam	medium	medium	subangular blocky	
Btx4	30-41	7.5YR 5/6 10YR 6/4,10YR 7/4	common 5YR 5/8 few 7.5YR 7/2, common 7.5 YR 5/8		silty clay loam	weak	very coarse	prismatic	many black masses, mixed matrix

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 1/7/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: terrace

PIT #: 16

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-sitly

GROUND WATER: none

PARENT MATERIAL: alluvuial/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-6				silt loam	weak	fine	granular	
Ap2	6-14				silt loam	medium	medium	subagular blocky	
Bt1	14-21				silty clay loam	medium	medium	subangular blocky	
Btx2	21-41	10YR 6/4 10YR 6/3	many 10YR 7/2, many 7.5 YR 5/8 many 7.5YR 5/4	21"	silty clay loam	strong	very coarse	prismatic	many black masses

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 1/7/2016

SITE LOCATION: Ingram

GEOMORPHIC DESCRIPTION: terrace

PIT #: 17

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Deep Nesbitt/Armour

DRAINAGE CLASS: well/moderately well drained

CLASSIFICATION: fine-sitly

GROUND WATER: none

PARENT MATERIAL: alluvuial/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-10%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-5				silt loam	weak	fine	granular	
A	5-12				silt loam	weak	medium	subagular blocky	
AB	12-19				silty loam	medium	medium	subangular blocky	
Bt1	19-26				silty clay loam	medium	medium	subangular blocky	
Bt2	26-35	7.5YR 5/6			silty clay loam	medium	medium	subagular blocky	common black masses
Btx3	35-44	7.5YR 5/6	few 10YR 6/4 few 10YR 7/4		silty clay loam	weak	medium	subangular blocky	

NORTH

0' 50' 100' 200' 300'

EXPANSION DISPOSAL SOILS

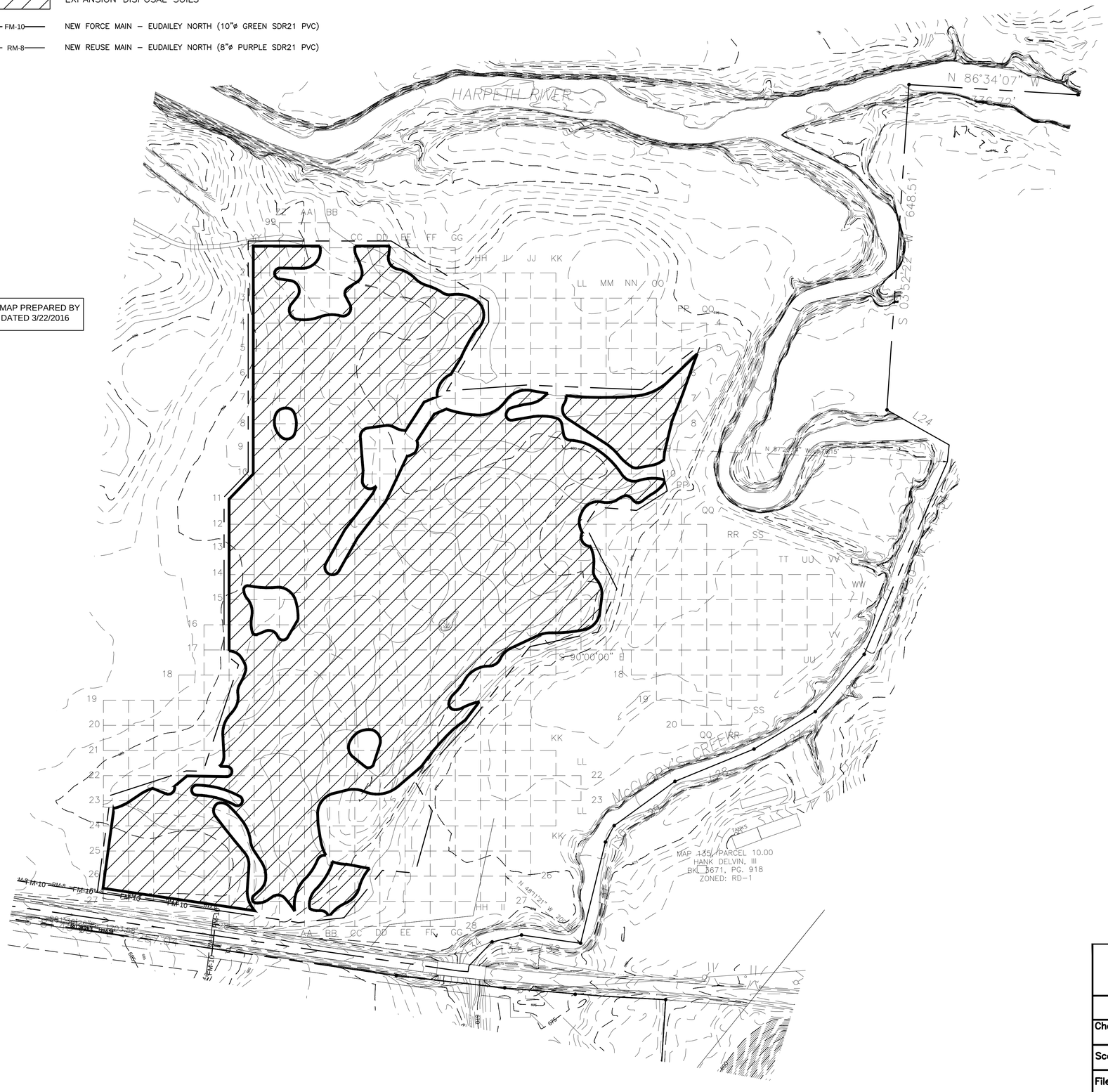
FM-10 FM-10 NEW FORCE MAIN – EUDAILEY NORTH (10"ø GREEN SDR21 PVC)

RM-8 RM-8 NEW REUSE MAIN – EUDAILEY NORTH (8"ø PURPLE SDR21 PVC)

SITE #2 LAYOUT

SCALE: 1" = 100'

REFER TO SOILS MAP PREPARED BY LONNIE NORROD DATED 3/22/2016



EUDAILEY TREATMENT FACILITY SOP MODIFICATION SOIL AREAS FOR MILCROFTON SERVICE AREA		
EUDAILEY - COVINGTON ROAD WILLIAMSON COUNTY, TENNESSEE		
Checked by: RCD	**Drawn by:** BKT	**Date:** APRIL 22, 2016
Scale: AS NOTED	**PLANS PREPARED BY:** Adenus SOLUTIONS GROUP®	
Filename: EUDAILEY SOP MOD 2016		
SHEET 3 OF 4		

Water Resources Soil Map Completed by:

Lonnie Norrod
Soil Scientist
3/22/16

I, Lonnie Norrod, affirm that this **Water Resources Soil Map** has been prepared in accordance with accepted standards of soil science practice and the standards and methodologies established in the NRCS Soil Survey Manual and USDA Soil Taxonomy. No other warranties are made or implied.

Legend:

- end of evaluation
- drain; generally 0-1' in depth; recommend installation 15' or more away upslope
- path of runoff; recommend installation 10' or more away or install thru with diversion or interceptor drain
- Loss of distinct path of drainage
- A - Location of a Pedon Description Pit
- S.E. - Severely Eroded (Indention caused by cattle traffic)
- OUT - Areas labeled "Out" are not suitable for drip irrigation at this time
- fencerow

Arm-Lin – Armour-Lindell soil complex unit with no clay texture or low chroma
20+ depletions observered less than 20" deep

Cap-Nes – Capshaw-Nesbitt soil complex unit with a clay texture and /or low chroma depletions
<20 observed less than 20" deep

Capt – Captina soil unit with no clay, fragipan or low chroma depletions observed less
20+ 20" deep

Lin-New – Lindell-Newark soil complex unit with low chroma depletions observed
<20 less than 20" deep

Mim – Mimosa soil unit with clay observed less than 20" deep.
<20

Mim-Cap – Mimosa-Capshaw soil complex unit with clay and/or low chroma depletions
<20 observed less than 20" deep

Nes – Nesbitt soil unit with no clay or low chroma depletions observed less than 20"
20+ deep

Nes-Arm – Nesbitt-Armour soil complex unit with no clay textures or low chroma
20+ depletions observed less than 20" deep

Nes-Syk – Nesbitt-Sykes soil complex unit with no clay texture or low chroma depletions observed
20+ less than 20" deep

Pru – Pruitton soil unit with no clay texture or depletions observed less than 20" deep
20+

Syk-Arm – Sykes-Armour soil complex unit with no clay texture or low chroma
20+ depletions less than 20" deep

Syk-Hum – Sykes-Humphreys soil complex unit with no clay texture or low chroma
20+ depletions observered less than 20" deep

Syk-Mim – Sykes-Mimosa soil complex unit with no clay textures or low chroma
20+ depletions observed less than 20" deep

Ta-Mim – Talbott-Mimosa soil complex unit with clay and/or rock observed less than
<20 20" deep

TaOW-Arm – Talbott overwash-Armour soil complex unit with a clay texture
<20 observed less than 20" deep. However, the structure of the clay horizon within 20"of the surface was moderate which means the soil unit is still considered suitable for drip according to current TDEC policy

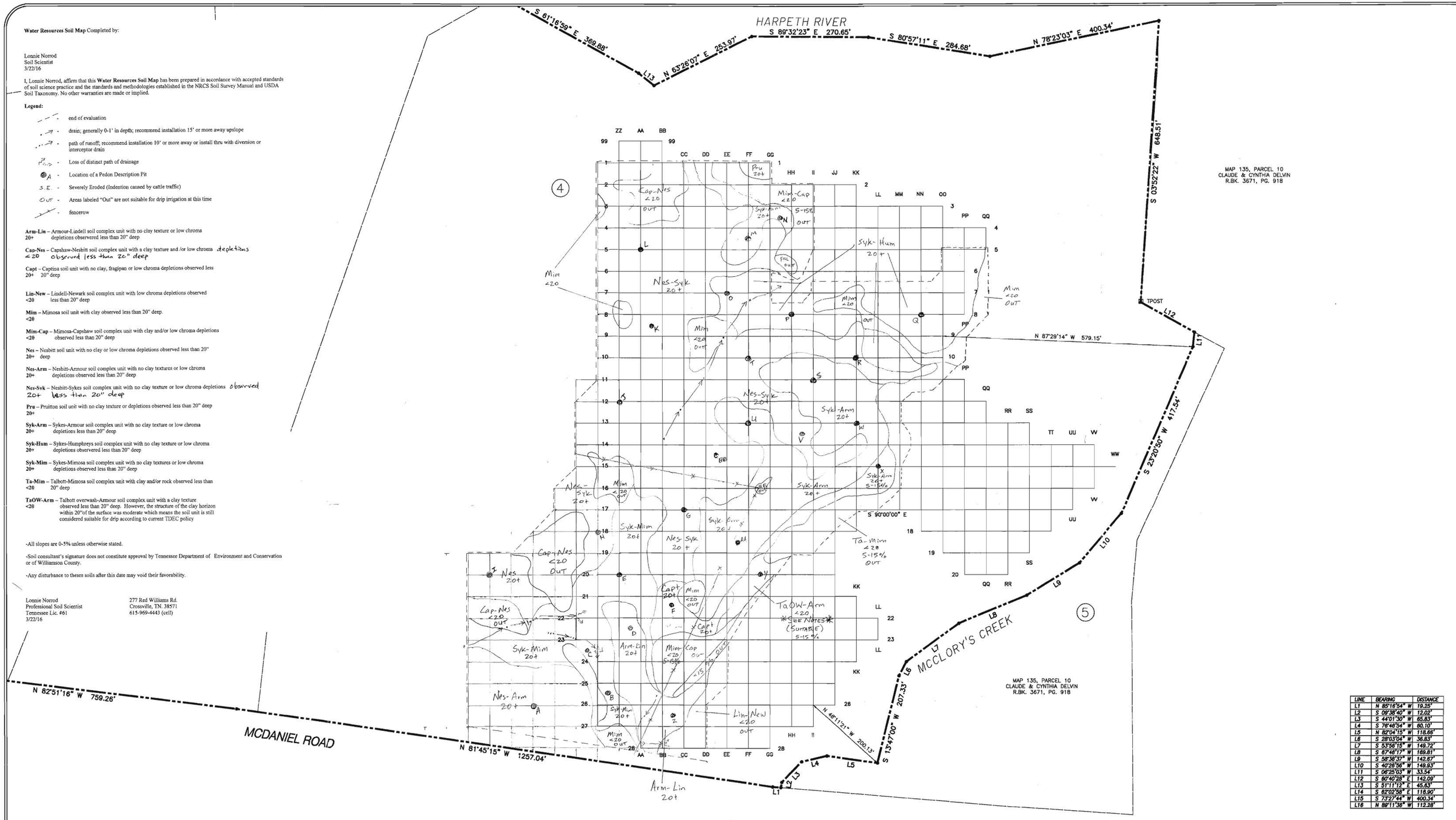
-All slopes are 0-5% unless otherwise stated.

-Soil consultant's signature does not constitute approval by Tennessee Department of Environment and Conservation or of Williamson County.

-Any disturbance to theses soils after this date may void their favorability.

Lonnie Norrod
Professional Soil Scientist
Tennessee Lic. #61
3/22/16

277 Red Williams Rd.
Crossville, TN. 38571
615-969-4443 (cell)



LINE	BEARING	DISTANCE
L1	N 85°16'54" W	19.25'
L2	S 09°38'40" W	12.02'
L3	S 44°01'30" W	65.83'
L4	S 76°48'54" W	80.10'
L5	N 82°04'15" W	116.66'
L6	S 28°03'04" W	36.83'
L7	S 53°56'15" W	149.72'
L8	S 67°48'17" W	169.81'
L9	S 58°38'37" W	142.87'
L10	S 40°26'56" W	149.93'
L11	S 06°25'03" W	33.54'
L12	S 80°40'28" E	142.09'
L13	S 51°11'12" E	45.83'
L14	S 82°02'58" E	116.90'
L15	S 73°27'44" W	400.34'
L16	N 89°11'38" W	112.28'

50' SOILS MAP - SHEET 1 OF 2

GENERAL NOTES

1) THE PROPERTY LINES SHOWN HEREON ARE BASED ON PRELIMINARY FIELD WORK ONLY. THIS SOIL MAP IS NOT A GENERAL PROPERTY SURVEY AS DEFINED UNDER RULE 0820-3-.07 (), OF T.C.A. 62-18-126, AND IS ONLY INTENDED TO BE USED FOR SOIL MAPPING PURPOSES.

I HEREBY CERTIFY THAT THIS MAP IS BASED ON A FIELD SURVEY DONE UNDER MY DIRECT SUPERVISION, AND THAT IT CORRECTLY REPRESENTS THE SOILS GRID STAKED ON THE GROUND AS SHOWN.

DATE_____

DAVID A. PARKER - TN. R.L.S. #2381

LEGEND

- IRON PIN (FOUND)
- IRON PIN SET (NEW)

north

0 100 200 300

feet

McDaniel Road Farm, LLC

R.BK. 1425, PG. 557, R.O.R.C., TN

MAP 135, PARCEL 10.01

COLLEGE GROVE, TENNESSEE
23rd CIVIL DISTRICT, WILLIAMSON COUNTY

SEC, Inc. SITE ENGINEERING CONSULTANTS
ENGINEERING • SURVEYING • LAND PLANNING
850 MIDDLE TENNESSEE BLVD • MURFREESBORO, TENNESSEE 37129
PHONE (615) 890-7901 • FAX (615) 895-2567

PROJ. #	DATE:	FILE:	DRAWN BY:	SCALE:	SHEET
15258	03-01-16	15258SOILS-R1	ACAD/11	1" = 100'	1 OF 2

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Allen Rather and Lonnie Norrod

DATE: 3/16/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: A

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Armour

DRAINAGE CLASS: well

CLASSIFICATION: fine silty

GROUND WATER: none

PARENT MATERIAL: alluvium

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-12	7.5YR 4/4			silt loam	weak and moderate	fine and medium	granular and subangular blocky	
Bt1	12.24	5YR 4/4			silty clay loam	weak	medium	subangular blocky	
Bt2	24-32	5YR 5/6			silty clay loam	moderate	medium	subangular blocky	
Bt3	32-41	5YR 4/6			silty clay loam	moderate	medium	subangular blocky	
Bt4	41-49	7.5YR 4/4			gravelley silty clay loam	moderate	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Allen Rather and Lonnie Norrod

DATE: 3/17/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: AA

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: gravelly Armour

DRAINAGE CLASS: well

CLASSIFICATION: fine-sitly

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-4				silt loam	weak	medium	subangular blocky	
AB	4-15				silt loam	weak	medium	subangular blocky	
Bt1	15-25				silty clay loam	moderate	medium	subangular blocky	
Bt2	25-32				gravelly silty clay loam	moderate	medium	subangular blocky	
Bt3	32-40+				gravelly silty clay loam	moderate	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Allen Rather

DATE: 3/16/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: B

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes

DRAINAGE CLASS: well

CLASSIFICATION: fine silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-4				silt loam	weak and moderate	fine and medium	granular	
Ap2	4-12				silt loam	weak and moderate	medium	subangular blocky	
BA	12-16				silty clay loam	weak	medium	subangular blocky	
Bt1	16-24				silty clay loam	moderate	medium	subangular blocky	
Bt2	24-32	7.5YR 4/4	common 7.5YR 6/3		clay loam	moderate	medium	subangular blocky	
2Bt3	32-45				clay	moderate	medium	subangular blocky	
2Bt4	45-50+				clay	weak	medium	subangular and angular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Allen Rather

DATE: 3/17/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: BB

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes

DRAINAGE CLASS: well

CLASSIFICATION: fine-sitly

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-3				silt loam	moderate	medium	subangular blocky	
AB	3-10				silt loam	moderate	medium	subangular blocky	
BA	10-15				silt loam	moderate	medium	subangular blocky	
Bt1	15-21				silty clay loam	moderate	medium	subangular blocky	common concretions
Bt2	21-28				silty clay loam	moderate	medium	subangular blocky	some fine sandy
Bt3	28-37		common 10YR 6/4		sitly clay loam	moderate	medium	subangular blocky	
Bt4	37-42+		common 10YR 6/3		silty clay loam	moderate	medium	subangular blocky	slightly brittle

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Allen Rather and Lonnie Norrod

DATE: 3/16/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: C

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Mimosa

DRAINAGE CLASS: well

CLASSIFICATION: fine

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-4				silt loam	weak	fine	subangular blocky	
Ap2	4-9				silt loam	weak	fine	subangular blocky	
Bt1	9-20				silty clay loam	moderate	medium	subangular blocky	
2Bt2	20-33				clay	weak	medium	subangular blocky	
2C	33-44+				clay	sturctureless		massive	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Allen Rather

DATE: 3/16/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: D

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Armour

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak and moderate	fine	granular	
Ap2	3-7				silt loam	weak	medium	subangular blocky	
AB	7-12				silt loam	weak	medium	subangular blocky	
BA	12-22				silt loam	weak	medium	subangular blocky	
Bt1	22-33				silty clay loam	moderate	medium	subangular blocky	
Bt2	33-41				gravelly silty clay loam	weak	medium	subangular blocky	many concretions
2Bt3	41-44+				clay	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Allen Rather and Lonnie Norrod

DATE: 3/16/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: E

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Capshaw Overwash

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap2	0-6				silt loam	weak	fine	granular	
A	6-14				silt loam	weak	fine	granular	
Ab	14-21				silt loam	weak	fine	granular and subangular blocky	
Btb1	21-29				silty clay loam	moderate	moderate	subangular blocky	
Btb2	29-34				clay	weak	fine	subangular blocky	
Btb3	34-44+				clay	weak	fine	subangular and angular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Allen Rather

DATE: 3/16/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: F

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Captina

DRAINAGE CLASS: moderately well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-9				silt loam	weak	medium	subangular blocky	
Bt1	9-18				silty clay loam	moderate	medium	subangular blocky	
Bt2	18-26		common 7.5YR 6/3		silty clay loam	weak	medium	subangular blocky	few concretions
2Btx1	26-30		common 7.5YR 6/2		silty clay loam	weak	medium	subangular blocky	common concretions
2Btx2	30-40		common 7.5YR 6/1		silty clay loam	moderate	very coarse	prismatic	many concretions
2Btx3	40-44+				clay loam	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Allen Rather and Lonnie Norrod

DATE: 3/16/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: G

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-6				silt loam	weak	fine	granular	
A	6-15				silt loam	weak	medium	subangular blocky	
BA	15-21				silt loam	moderate	medium	subangular blocky	
Bt1	21-31				silty clay loam	moderate	medium	subangular blocky	few concretions
Bt2	31-39				silty clay loam	moderate	medium	subangular blocky	common concretions
2Bt3	39-47+				clay	weak	medium	subangular blocky	many concretions

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Allen Rather

DATE: 3/16/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: H

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-4				silt loam	weak	fine	granular	
A	4-14				silt loam	moderate	medium	subangular blocky	
Bt1	14-19				silty clay loam	moderate	medium	subangular blocky	
Bt2	19-26				silty clay loam	moderate	medium	subangular blocky	
Bt3	26-39				very gravelly silty clay loam	weak	medium	subangular blocky	common concretions
2C	39-47+				gravelly clay	structureless		massive	common concretions

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Allen Rather and Lonnie Norrod

DATE: 3/16/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: I

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt/Sykes

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-5				silt loam	weak	medium	subangular blocky	
A	5-11				silt loam	weak	medium	subangular blocky	
B1	11-22				silt loam	moderate	medium	subangular blocky	
B2	22-27				silt loam	moderate	medium	subangular blocky	
Bt3	27-34				silty clay loam	moderate	medium	subangular blocky	slight brittleness
2C	34-42+				clay	structureless		massive	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Allen Rather

DATE: 3/16/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: J

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt/Sykes

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-4				silt loam	weak and moderate	fine and medium	granular and subangular blocky	mild compaction (cattle traffic)
A	4-11				silt loam	weak	medium	subangular blocky	
Bt1	11-16				silty clay loam	moderate	medium	subangular blocky	
Bt2	16-24				silty clay loam	moderate	medium	subangular blocky	
Bt3	24-28		common 10YR 6/3		silty clay loam	moderate	medium	subangular blocky	
Bt4	28-35		common 10YR 6/4		silty clay loam	moderate	medium	subangular blocky	slight brittleness/few concretions
Bt5	35-48+		common 10YR 6/3		silty clay loam	weak	medium	subangular blocky	slight brittleness/few concretions

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Allen Rather and Lonnie Norrod

DATE: 3/16/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: K

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt

DRAINAGE CLASS: moderately well/well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-5				silt loam	weak	fine	granular	slight compaction (cattle traffic)
A	5-13				silt loam	weak	medium	subangular blocky	
Bt1	13-20				silty clay loam	moderate	medium	subangular blocky	
Bt2	20-27				silty clay loam	moderate	medium	subangular blocky	
Bt3	27-36	10YR 5/6	many 10YR 6/3		silty clay loam	moderate	medium	subangular blocky	slight brittleness/many concretions
2C	36-42+				clay	structureless		massive	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Allen Rather

DATE: 3/16/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: L

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt/Sykes

DRAINAGE CLASS: moderately well/well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-3				silt loam	weak	fine	granular and subangular blocky	
AB	3-11				silty clay loam	weak	medium	subangular blocky	
Bt1	11-19				silty clay loam	moderate	medium	subangular blocky	
Bt2	19-27				silty clay loam	moderate	medium	subangular blocky	
Bt3	27-34	10YR 4/4	few 10YR 6/3		gravelley silty clay loam	weak	medium	subangular blocky	
2C	34-41+				clay	structureless		massive	many concretions

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Allen Rather and Lonnie Norrod

DATE: 3/16/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: M

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Skyes

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-4				silt loam	weak	medium	subangular blocky	
A	4-11				silt loam	weak	medium	subangular blocky	
Bt1	11-21				very gravelley silty clay loam	moderate	medium	subangular blocky	
Bt2	21-26				very gravelley silty clay loam	weak	medium	subangular blocky	
2C	26-36+				clay	structureless		massive	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Allen Rather

DATE: 3/16/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: N

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Armour

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-3				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
A	3-8				silt loam	moderate	medium	subangular blocky	
AB	8-12				silt loam	moderate	medium	subangular blocky	
Bt1	12-36				silty clay loam	moderate	medium	subangular blocky	
Bt2	36-44+				silty clay loam	weak	medium	subanular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 3/17/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: O

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
Ap2	3-13				silt loam	moderate	fine and medium	subangular blocky	
BA	13-19				silty clay loam	moderate	medium	subangular blocky	
Bt1	19-24				silty clay loam	moderate	medium	subangular blocky	few concretions
2Bt2	24-32				silty clay loam	weak	medium	subanular blocky	
2Bt3	32-38				clay	moderate	medium	angular and subagular blocky	
2Bt4	38-42+	mixed matrix			clay	weak and moderate	medium	subangular blocky	common masses and concretions

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 3/17/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: P

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes Overwash

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-10				silt loam	weak	medium	subangular blocky	
AB	10-17				silt loam	weak	medium	subangular blocky	
Ab	17-21				silt loam	weak	medium	granular and subagular blocky	
BAb	21-28				silt loam	weak	medium	subanular blocky	
Btb1	28-31				silty clay loan	weak	medium	subangular blocky	
2Btb2	31-37				silty clay loam	moderate	medium	subangular blocky	
2Btb3	37-40+				silty clay loam	moderate	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 3/17/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: Q

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Humphreys

DRAINAGE CLASS: well

CLASSIFICATION: fine-loamy

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-8				silt loam	weak	fine	subangular blocky	
BA	8-13				silty clay loam	weak	medium	subangular blocky	
Bt1	13-22				clay loam	moderate	medium	subangular blocky	
Bt2	22-31				gravelly clay loam	moderate	medium	subanular blocky	
Bt3	31-37				very gravelly clay loam	moderate	medium	subangular blocky	
Bt4	37-43				extremely gravelly clay loam	moderate	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 3/17/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: R

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
Ap2	3-9				silt loam	moderate	fine and medium	subangular blocky	
AB	9-14				silt loam	moderate	medium	subangular blocky	
Bt1	14-21				silty clay loam	moderate	medium	subangular blocky	
Bt2	21-29				silty clay loam	moderate	medium	subanular blocky	
Bt3	29-35				sitly clay loam	moderate	medium	subangular blocky	
2Bt4	35-44				silty clay loam	weak	medium	subangular blocky	
2Bt5	44-46+	10YR 5/6	common 10YR 6/3		clay	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 3/17/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: S

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Armour

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
Ap2	3-10				silt loam	moderate	medium	subangular blocky	
BA	10-16				silty clay loam	moderate	medium	subangular blocky	
Bt1	16-23				silty clay loam	moderate	medium	subangular blocky	
Bt2	23-28				silty clay loam	moderate	medium	subanular blocky	
Bt3	28-34				sitly clay loam	moderate	medium	subangular blocky	
Bt4	34-39				gravelly silty clay loam	moderate	medium	subangular blocky	
Bt5	39-48+				gravelly clay loam	moderate	medium	subangular and angular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Allen Rather and Lonnie Norrod

DATE: 3/17/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: T

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt

DRAINAGE CLASS: moderately well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-10				silt loam	weak	fine and medium	subangular blocky	
AB	10-18				silt loam	weak	fine and medium	subangular blocky	
Bt1	18-28				silty clay loam	moderate	medium	subangular blocky	
Bt2	28-36		common 10YR 6/3		silty clay loam	moderate	medium	subangular blocky	common concretions
Bt3	36-44+		common 10YR 6/2		silty clay loam	weak	medium	subanular blocky	slight brittleness/many concretions

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Allen Rather

DATE: 3/17/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: U

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: gravelly Armour

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
Ap2	3-9				silt loam	moderate	medium	subangular blocky	
BA	9-18				silty clay loam	moderate	medium	subangular blocky	
Bt1	18-27				gravelly silty clay loam	weak	medium	subangular blocky	
Bt2	27-33				gravelly silty clay loam	weak	medium	subanular blocky	
Bt3	33-44				gravelly clay loam	weak	medium	subangular blocky	
Bt4	44-46+				gravelly clay loam	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Allen Rather and Lonnie Norrod

DATE: 3/17/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: V

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: gravelly Armour

DRAINAGE CLASS: moderatly well/well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-5				silt loam	weak and moderate	fine	granular and subangular blocky	slightly compacted (cattle traffic)
A	5-11				silt loam	weak	fine	granular	
AB	11-19				silt loam	moderate	medium	subangular blocky	
Bt1	19-26				silty clay loam	moderate	medium	subangular blocky	
Bt2	26-33				silty clay loam	moderate	medium	subanular blocky	slight brittleness
Bt3	33-40		few 10YR 6/3		sitly clay loam	weak	medium	subangular blocky	many concretions
Bt4	40-46+		common 10YR 6/3		clay	weak	medium	subangular blocky	many concretions

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Allen Rather

DATE: 3/17/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: W

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-11				silt loam	moderate	fine and medium	subangular blocky	
AB	11-17				silt loam	weak	medium	subangular blocky	
Bt1	17-24				silty clay loam	moderate	medium	subangular blocky	
2Bt2	24-28				clay	moderate	medium	subangular blocky	
2Bt3	28-36				clay	sturctureless		massive	
2Cr	36-41+								

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Allen Rather and Lonnie Norrod

DATE: 3/17/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: X

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 5-15%

SLOPE OF MAP UNIT: 5-15%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-6				silt loam	weak and moderate	fine	granular and subangular blocky	
AB	6-15				silt loam	moderate	medium	subangular blocky	
Bt1	15-24				silty clay loam	moderate	medium	subangular blocky	
Bt2	24-31				silty clay loam	moderate	medium	subangular blocky	
Bt3	31-38				silty clay loam	weak	medium	subangular blocky	
2Bt4	38-41				clay	weak	medium	subangular blocky	
R	41								

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Allen Rather and Lonnie Norrod

DATE: 3/17/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: terrace

PIT #: Y

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Talbott overwash

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 5-15%

SLOPE OF MAP UNIT: 5-15%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
A	0-5				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
AB	5-8				very gravelly silt loam	weak	medium	subangular blocky	
Bt1	8-17				very gravelly silt loam	moderate	medium	subangular blocky	
Bt2	17-28				clay	moderate	medium	subangular blocky	
2Bt3	28-35				clay	moderate	medium	subangular blocky	
C	35-40				clay	structureless		massive	limestone channers present
R	40+								

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod and Allen Rather

DATE: 3/17/2016

SITE LOCATION: McDaniel Road Farm, LLC. (Sullivan Property)

GEOMORPHIC DESCRIPTION: flood plain

PIT #: Z

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Lindside

DRAINAGE CLASS: moderately well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT: 0-5%

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
A	0-3				silt loam	weak	fine	granular	
AB	3-21				silt loam	weak	medium	subangular blocky	
Bt1	21-26	10YR 4/4 5YR 4/4	common 10YR 6/2		silty clay loam	moderate	medium	subangular blocky	
Bt2	26-37				silty clay loam	moderate	medium	subangular blocky	
2Bt3	37-42+				silty clay loam	moderate	medium	subangular blocky	

NORTH

0' 100' 200' 400' 600'

SITE #3 LAYOUT

SCALE: 1" = 200'

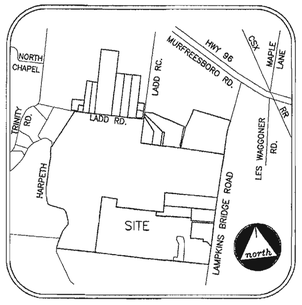
▨	EXPANSION DISPOSAL SOILS
—FM-10—FM-10—	NEW FORCE MAIN – EUDAILEY NORTH (10"ø GREEN SDR21 PVC)
—RM-8—RM-8—	NEW REUSE MAIN – EUDAILEY NORTH (8"ø PURPLE SDR21 PVC)

REFER TO SOILS MAP PREPARED BY
LONNIE NORROD DATED 3/22/2016 -
3 MAP SHEETS

EUDAILEY TREATMENT FACILITY
SOP MODIFICATION SOIL AREAS
FOR
MILCROFTON SERVICE AREA

EUDAILEY - COVINGTON ROAD
WILLIAMSON COUNTY, TENNESSEE

Checked by: RCD	**Drawn by:** BKT	**Date:** APRIL 22, 2016
Scale: AS NOTED	**PLANS PREPARED BY:** Adenus® SOLUTIONS GROUP	
Filename: EUDAILEY SOP MOD 2016		
SHEET 4 OF 4		



LOCATION MAP

Williamson County Zoning Ordinance Extra-High Intensity Soil Map Completed by:

Lonnie Norrod
Soil Scientist
4/15/16

I, Lonnie Norrod, affirm that this **Williamson County Zoning Ordinance Extra-High Intensity Soil Map** has been prepared in accordance with accepted standards of soil science practice and the standards and methodologies established in the NRCS Soil Survey Manual and USDA Soil Taxonomy. No other warranties are made or implied.

LEGEND:

- end of evaluation
- drain; generally 0-1' in depth; recommend installation 15' or more away upslope
- drain; generally greater than 1' in depth; recommend installation 25' or more away upslope
- path of runoff; recommend installation 10' or more away or install thru with diversion or interceptor drain
- Location of a Pedon Description Pit
- Fencerow
- Signifies an area requiring specific soil improvement practices
- Location of test and/or soil chemistry test

DEFINITIONS:

Restrictive Layer – bedrock, fragipan, a soil horizon with a clay texture and weak or structureless(massive) structure, a soil horizon with a low chroma (2 chroma or less) matrix due to wetness or low chroma depletions

SOIL MAP UNITS:

Arm-Arm OW 20+ – Armour-Armour Overwash soil complex unit with no restrictive layer observed within 20" of the soil surface

Arm-Syk 20+ – Armour-Sykes soil complex unit with no restrictive layer observed within 20" of the soil surface

Cap Ow 20+ – Capshaw Overwash soil unit with no restrictive layer observed within 20" of the soil surface

Capt-Cap <20 – Captina-Capshaw soil unit with a restrictive layer observed within 20" of the soil surface

Capt-Mim <20 – Captina-Mimosa soil complex unit with a restrictive layer observed within 20" of the soil surface

Cap-Wood <20 – Capshaw-Woodmont soil complex unit with a restrictive layer observed within 20" of the surface

Compacted Nes-Syk 20+ – Nesbitt-Sykes soil complex unit with 10-12" of compaction due to cattle feeding practices with no restrictive layer observed within 20" of the soil surface except the compacted surface; this area needs plowing to a depth of 12" followed by disking and/or tilling to break up the compaction and smooth out the surface prior to installing drip lines

Ham <20 – Hampshire soil unit with a restrictive layer observed within 20" of the soil surface

Mim <20 – Mimosa soil unit with a restrictive layer observed within 20" of the soil surface

Mim-Ta <20 – Mimosa-Talbott soil complex unit with a restrictive layer observed within 20" of the soil surface

Nes 20+ – Nesbitt soil unit with no restrictive layer observed within 20" of the soil surface

Nes-Capt <20 – Nesbitt-Captina soil complex unit with a restrictive layer observed within 20" of the soil surface

Nes-Capt 20+ – Nesbitt-Captina soil complex unit with no restrictive layer observed within 20" of the soil surface

Nes-Nes OW 20+ – Nesbitt-Nesbitt Overwash soil complex unit with no restrictive layer observed within 20" of the soil surface

Nes-Syk 20" – Nesbitt-Sykes soil complex unit with no restrictive layer observed within 20" of the soil surface

Nes OW 20+ – Nesbitt Overwash soil unit with no restrictive layer observed within 20" of soil surface

Syk 20+ – Sykes soil unit with no restrictive layer observed within 20" of the soil surface

Syk-Nes OW 20+ – Sykes-Nesbitt Overwash soil complex unit with no restrictive layer observed within 20" of the soil surface

Ta-Mim-ROC <20 – Talbott-Mimosa-Rock Outcrop soil complex unit with a restrictive layer observed within 20" of the soil surface

Ta-ROC <20 – Talbott-Rock Outcrop soil complex unit with a restrictive layer observed within 20" of the soil surface

Wood <20 – Woodmont soil unit with a restrictive layer observed within 20" of the soil surface

Soil consultant's signature does not constitute approval by Tennessee Department of Environment and Conservation or of Williamson County.

Any disturbance to theses soils after this date may void their favorability.

Lonnie Norrod
Professional Soil Scientist
Tennessee Lic. #61
4/15/16

277 Red Williams Rd.
Crossville, TN. 38571
615-969-4443 (cell)

MAP 115, PARCEL 1.00
LAMPKINS BRIDGE ROAD, LLC
BK. 3095, PG. 911

MAP 115, PARCEL 1.04
ROBERT ALLAN FISHER JR
BK. 2567, PG. 601

MAP 115, PARCEL 1.02
DAVID R. WADSWORTH ET UX
BK. 3536, PG. 417

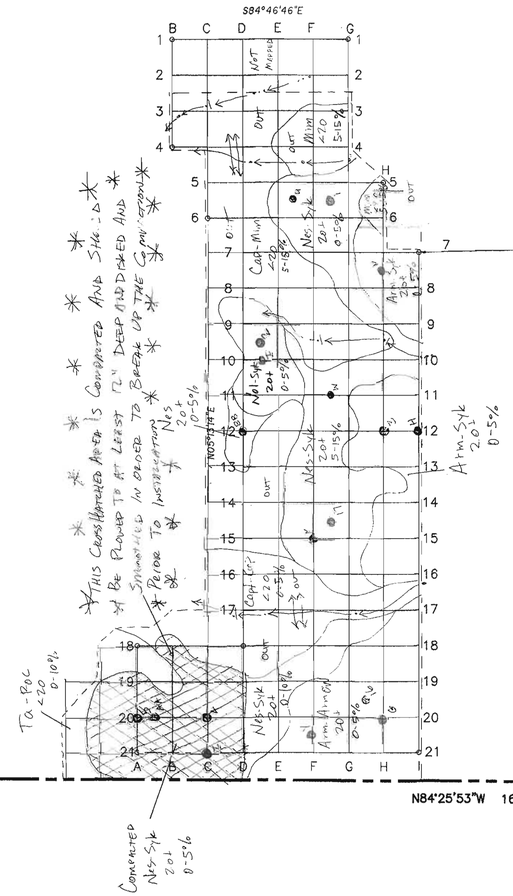
MAP 115, PARCEL 1.05
JACK B. GALLOWAY JR ET UX
BK. 4739, PG. 997

MAP 115, PARCEL 11.00
KIETH FAMILY REV. LIVING TRUST
BK. 5393, PG. 1

IP SET AT FCP
S07°32'11"W 144.95'
S86°57'30"E 1162.49'
IPF
S01°16'29"W 95.16'
S86°46'31"E 785.19'
N86°46'31"W 749.47'
IP SET
S04°55'29"W 545.63'
N85°40'31"W 180.99'
S85°22'31"E 257.31'
S02°24'29"W 79.42'
S86°53'31"E 141.55'
S86°14'10"E 643.63'
S07°15'29"W 632.44'
N84°58'12"W 484.68'
S88°55'09"W 67.16'
N84°25'53"W 1657.44'

Lampkins Bridge Rd.

S84°46'46"E



north

0 100 200 300
feet

CERTIFICATION OF ACCURACY

I HEREBY CERTIFY THAT THE GRID SHOWN HEREON WAS STAKED WITH AN ACCURACY EXCEEDING ONE FOOT IN ONE THOUSAND FEET (1:1000).

BY: _____

TN RLS: 1805

DATE: 4-4-16

THOMAS G. ROSENKAT — REGISTERED LAND SURVEYOR — AGRICULTURE — COMMUNITY — 4/4/16 — TENNESSEE NO. 1805

NOTES:

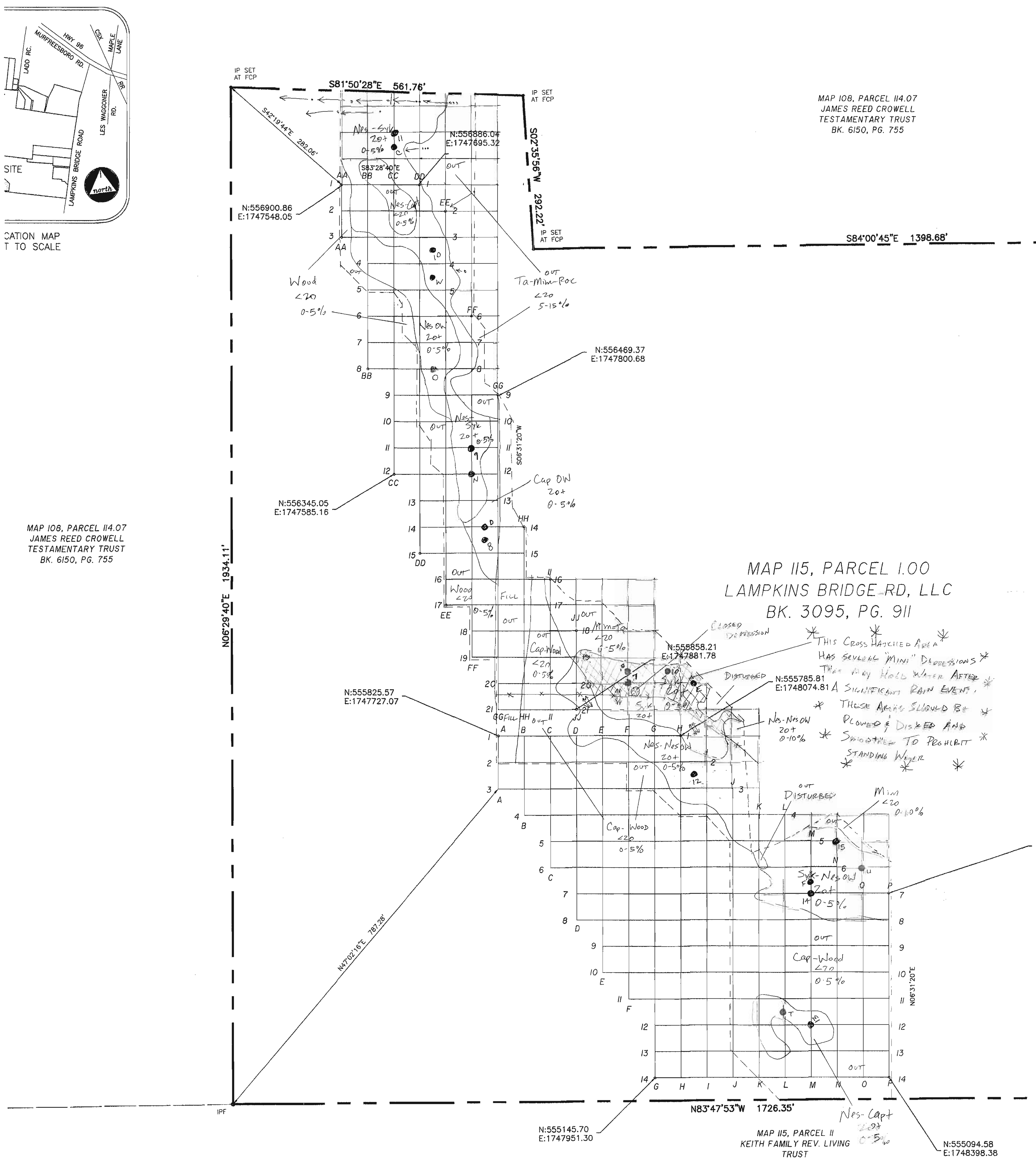
1. CONTROL COORDINATES SHOWN ARE BASED ON TENNESSEE STATE PLANE COORDINATES

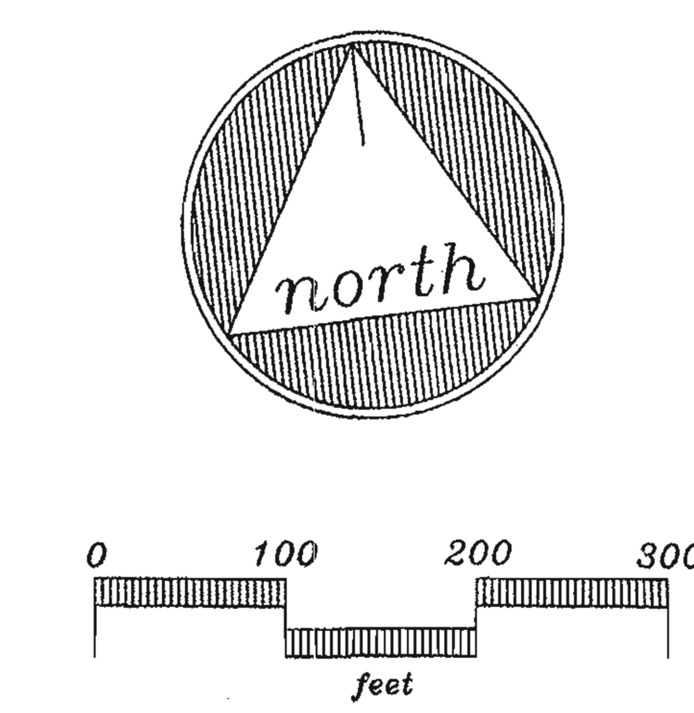
50' Soils Mapping Grid
MAP 115, PARCEL 1.00

6269 LAMPKINS BRIDGE ROAD, COLLEGE GROVE TN
23RD CIVIL DISTRICT, WILLIAMSON COUNTY
OWNER: LAMPKINS BRIDGE ROAD, LLC
DEED BOOK 3095, PAGE 911, R.O.W.C., TN.

SEC, Inc. SITE ENGINEERING CONSULTANTS
ENGINEERING • SURVEYING • LAND PLANNING
850 MIDDLE TENNESSEE BLVD • MURFREESBORO, TENNESSEE 37129
PHONE (615) 890-7901 • FAX (615) 895-2567

PROJ. #	DATE:	FILE:	DRAWN BY:	SCALE:	SHEET #
15254	3-30-16	SpringHollowSoilsMap5A	ACAD/TGR	1" = 100'	1 OF 1





Williamson County Zoning Ordinance Extra-High Intensity Soil Map Completed by:

Lonnie Norrod
Soil Scientist
4/15/16

I, Lonnie Norrod, affirm that this **Williamson County Zoning Ordinance Extra-High Intensity Soil Map** has been prepared in accordance with accepted standards of soil science practice and the standards and methodologies established in the NRCS Soil Survey Manual and USDA Soil Taxonomy. No other warranties are made or implied.

LEGEND:

- end of evaluation
- drain; generally 0-1' in depth; recommend installation 15' or more away upslope
- drain; generally greater than 1' in depth; recommend installation 25' or more away upslope
- path of runoff; recommend installation 10' or more away or install thru with diversion or interceptor drain
- Location of a Pedon Description Pit
- Fencerow
- Signifies an area requiring specific soil improvement practices
- Location of K sat and/or soil chemistry test

DEFINITIONS:

Restrictive Layer – bedrock, fragipan, a soil horizon with a clay texture and weak or sturctureless(massive) structure, a soil horizon with a low chroma (2 chroma or less) matrix due to wetness or low chroma depletions

SOIL MAP UNITS:

Arm-Arm OW – Armour-Armour Overwash soil complex unit with no restrictive layer observed within 20" of the soil surface
20+

Arm-Syk – Armour-Sykes soil complex unit with no restrictive layer observed within 20" of the soil surface
20+

Cap Ow – Capshaw Overwash soil unit with no restrictive layer observed within 20" of the soil surface
20+

Capt-Cap – Captina-Capshaw soil unit with a restrictive layer observed within 20" of the soil surface
<20

Capt-Mim – Captina-Mimosa soil complex unit with a restrictive layer observed within 20" of the soil surface
<20

Cap-Wood – Capshaw-Woodmont soil complex unit with a restrictive layer observed within 20" of the surface
<20

Compacted Nes-Syk – Nesbitt-Sykes soil complex unit with 10-12" of compaction due to cattle feeding practices with no restrictive layer observed within 20" of the soil surface except the compacted surface; this area needs plowing to a depth of 12" followed by disking and/or tilling to break up the compaction and smooth out the surface prior to installing drip lines
20+

Ham – Hampshire soil unit with a restrictive layer observed within 20" of the soil surface
<20

Mim – Mimosa soil unit with a restrictive layer observed within 20" of the soil surface
<20

Mim-Ta – Mimosa-Talbott soil complex unit with a restrictive layer observed within 20" of the soil surface
<20

Nes – Nesbitt soil unit with no restrictive layer observed within 20" of the soil surface
20+

Nes-Capt – Nesbitt-Captina soil complex unit with a restrictive layer observed within 20" of the soil surface
<20

Nes-Capt – Nesbitt-Captina soil complex unit with no restrictive layer observed within 20" of the soil surface
20+

Nes-Nes OW – Nesbitt-Nesbitt Overwash soil complex unit with no restrictive layer observed within 20" of the soil surface
20+

Nes-Syk – Nesbitt-Sykes soil complex unit with no restrictive layer observed within 20" of the soil surface
20"

Nes OW – Nesbitt Overwash soil unit with no restrictive layer observed within 20" of soil surface
20+

Syk – Sykes soil unit with no restrictive layer observed within 20" of the soil surface
20+

Syk-Nes OW – Sykes-Nesbitt Overwash soil complex unit with no restrictive layer observed within 20" of the soil surface
20+

Ta-Mim-ROC – Talbott-Mimosa-Rock Outcrop soil complex unit with a restrictive layer observed within 20" of the soil surface
<20

Ta-ROC – Talbott-Rock Outcrop soil complex unit with a restrictive layer observed within 20" of the soil surface
<20

Wood – Woodmont soil unit with a restrictive layer observed within 20" of the soil surface
<20

Soil consultant's signature does not constitute approval by Tennessee Department of Environment and Conservation or of Williamson County.

Any disturbance to theses soils after this date may void their favorability.

Lonnie Norrod
Professional Soil Scientist
Tennessee Lic. #61
4/15/16

277 Red Williams Rd.
Crossville, TN. 38571
615-969-4443 (cell)

CERTIFICATION OF ACCURACY

I HEREBY CERTIFY THAT THE GRID SHOWN HEREON WAS STAKED WITH AN ACCURACY EXCEEDING ONE FOOT IN ONE THOUSAND FEET (1:1000).

BY: [signature]

TN RLS: 1805

DATE: 2-3-16

NOTES:

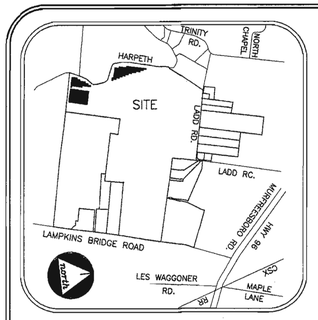
1. CONTROL COORDINATES SHOWN ARE BASED ON TENNESSEE STATE PLANE COORDINATES

50' Soils Mapping Grid
MAP 115, PARCEL 1.00

6269 LAMPKINS BRIDGE ROAD, COLLEGE GROVE TN
23RD CIVIL DISTRICT, WILLIAMSON COUNTY
OWNER: LAMPKINS BRIDGE ROAD, LLC
DEED BOOK 3095, PAGE 911, R.O.W.C., TN.

SEC, Inc. SITE ENGINEERING CONSULTANTS
ENGINEERING • SURVEYING • LAND PLANNING
850 MIDDLE TENNESSEE BLVD • MURFREESBORO, TENNESSEE 37129
PHONE (615) 890-7901 • FAX (615) 895-2567

PROJ. #	DATE:	FILE:	DRAWN BY:	SCALE:	SHEET 1
15254	1-20-16	SpringHollowSoilsMap4	ACAD/TGR	1" = 100'	OF 1



LOCATION MAP
NOT TO SCALE

north

0 100 200 300
feet

MAP 116, PARCEL 27
DAVIDSON & BANKSTERS LLC
BK. 6535, PG. 681

RIVER

HARPETH

N:557227.45
E:1745589.48

N:557917.24
E:1745718.66

N:556717
E:174608

N:555321.26
E:1745975.50

N:555988.34
E:1746303.35

N:555325.51
E:1746378.54

N:555219.04
E:1746869.63

N:555864.83
E:1746943.46

N06°31'20"E

N83°28'40"W

N43°31'32"E 1545.8'

N18°50'02"E 1314.7'

MAP 115, PARCEL 11
KEITH FAMILY REV. LIVING TRUST
BK. 1759, PG. 537

MAP 115, PARCEL 1.00
LAMPKINS BRIDGE RD, LLC
BK. 3095, PG. 911

IRON PIN
WITH CAP (SEC)
SET
N:557109.12
E:1747367.87

Ham 0-5% OUT <20
Nes-Capt 20+ 0-5%
Arm-Syk 20+ 0-5%
Nes-Capt 20+ 0-5 %
OUT Capt-Wood <20 0-10%

Williamson County Zoning Ordinance Extra-High Intensity Soil Map Completed by:

Lonnie Norrod
Soil Scientist
4/15/16

I, Lonnie Norrod, affirm that this **Williamson County Zoning Ordinance Extra-High Intensity Soil Map** has been prepared in accordance with accepted standards of soil science practice and the standards and methodologies established in the NRCS Soil Survey Manual and USDA Soil Taxonomy. No other warranties are made or implied.

LEGEND:

- end of evaluation
- drain; generally 0-1' in depth; recommend installation 15' or more away upslope
- drain; generally greater than 1' in depth; recommend installation 25' or more away upslope
- path of runoff; recommend installation 10' or more away or install thru with diversion or interceptor drain
- Location of a Pedon Description Pit
- Fencerow
- Signifies an area requiring specific soil improvement practices
- location of X-ray and/or soil chemistry test

DEFINITIONS:

Restrictive Layer – bedrock, fragipan, a soil horizon with a clay texture and weak or sturctureless(massive) structure, a soil horizon with a low chroma (2 chroma or less) matrix due to wetness or low chroma depletions

SOIL MAP UNITS:

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20+

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20+

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20+

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<20

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<20

Cap-Wood – Capshaw-Woodmont soil complex unit with a restrictive layer observed within 20" of the surface
<20

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20+

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<20

Mim – Mimosa soil unit with a restrictive layer observed within 20" of the soil surface
<20

Mim-Ta – Mimosa-Talbott soil complex unit with a restrictive layer observed within 20" of the soil surface
<20

Nes – Nesbitt soil unit with no restrictive layer observed within 20" of the soil surface
20+

Nes-Capt – Nesbitt-Captina soil complex unit with a restrictive layer observed within 20" of the soil surface
<20

Nes-Capt – Nesbitt-Captina soil complex unit with no restrictive layer observed within 20" of the soil surface
20+

Nes-Nes OW – Nesbitt-Nesbitt Overwash soil complex unit with no restrictive layer observed within 20" of the soil surface
20+

Nes-Syk – Nesbitt-Sykes soil complex unit with no restrictive layer observed within 20" of the soil surface
20"

Nes OW – Nesbitt Overwash soil unit with no restrictive layer observed within 20" of soil surface
20+

Syk – Sykes soil unit with no restrictive layer observed within 20" of the soil surface
20+

Syk-Nes OW – Sykes-Nesbitt Overwash soil complex unit with no restrictive layer observed within 20" of the soil surface
20+

Ta-Mim-ROC – Talbott-Mimosa-Rock Outcrop soil complex unit with a restrictive layer observed within 20" of the soil surface
<20

Ta-ROC – Talbott-Rock Outcrop soil complex unit with a restrictive layer observed within 20" of the soil surface
<20

Wood – Woodmont soil unit with a restrictive layer observed within 20" of the soil surface
<20

Soil consultant's signature does not constitute approval by Tennessee Department of Environment and Conservation or of Williamson County.

Any disturbance to theses soils after this date may void their favorability.

Lonnie Norrod
Professional Soil Scientist
Tennessee Lic. #61
4/15/16

277 Red Williams Rd.
Crossville, TN. 38571
615-969-4443 (cell)

CERTIFICATION OF ACCURACY

I HEREBY CERTIFY THAT THE GRID SHOWN HEREON WAS STAKED WITH AN ACCURACY EXCEEDING ONE FOOT IN ONE THOUSAND FEET (1:1000).

BY: _____

TN RLS: 1305

DATE: 1-07-16

NOTES:

1. CONTROL COORDINATES SHOWN ARE BASED ON TENNESSEE STATE PLANE COORDINATES (SPC 4100 TN)

50' Soils Mapping Grid
MAP 108, PARCEL 147.07

6230 LAMPKINS BRIDGE ROAD, COLLEGE GROVE TN
23RD CIVIL DISTRICT, WILLIAMSON COUNTY
OWNER: JAMES REED CROWELL TESTAMENTARY TRUST
DEED BOOK 6150, PAGE 755, R.O.W.C., TN.

SEC, Inc. SITE ENGINEERING CONSULTANTS
ENGINEERING • SURVEYING • LAND PLANNING
850 MIDDLE TENNESSEE BLVD • MURFREESBORO, TENNESSEE 37129
PHONE (615) 890-7901 • FAX (615) 895-2567

PROJ. #	DATE:	FILE:	DRAWN BY:	SCALE:	SHEET #
15254	1-07-2015	SpringHollowSoilsMap2	ACAD/TGR	1" = 100'	1 OF 1

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 1

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Captina

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-11				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
BA	11-15				silt loam	weak	medium	subangular blocky	
Bt1	15-22				silty clay loam	weak	medium	subangular blocky	
Bt2	22-27	10YR 5/6	few 10YR 6/3		silty clay loam	moderate	medium	subangular blocky	few concretions
Btx3	27-39	10YR 5/6	common 10YR 6/3		silty clay loam	moderate	medium	subangular blocky	many masses and concretions / slight brittleness
Btx4	39-45	10YR 4/6	common 10YR 7/2	39	silty clay loam	weak	very coarse	prismatic	many masses and concretions

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 2

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nolin

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-7				loam	weak	fine and medium	granular and subangular blocky	
Bw1	7-14				loam	weak	medium	subangular blocky	
Bw2	14-21				silt loam	weak	medium	subangular blocky	
Ab	21-29				silt loam	weak	medium	subangular blocky	
ABb	29-34				silt loam	weak	medium	subangular blocky	
Btb1	34-40				silty clay loam	weak	medium	subangular blocky	
2Btb2	40-43				clay	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 3

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Armour

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-2				silt loam	weak	fine	granular	
Ap2	2-6				silt loam	weak	fine and medium	granular and subangular blocky	
AB	6-14				silt loam	weak	medium	subangular blocky	
B	14-20				silty clay loam	weak	medium	subangular blocky	
Bt	20-26				silty clay loam	moderate	medium	subangular blocky	
Bt2	26-32				silty clay loam	moderate	medium	subangular blocky	
Bt3	32-41				silty clay loam	moderate	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 4

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Compacted Nesbitt

DRAINAGE CLASS: well/moderateley well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: cattle feeding area

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES: Compaction needs to be broken up to 10-12" deep prior to installation / no low chromas throughout the profile / compaction due to cattle feeding traffic

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-8		mixed matrix: (10YR 5/3) (10YR 5/4) (2.5YR 4/4)		silt loam				severely compacted / many iron masses
BA	8-16				silty clay loam	weak	medium	subangular blocky	
Bt1	16-21				silty clay loam	weak	medium	subangular blocky	
Bt2	21-29				silty clay loam	weak	medium	subangular blocky	many iron masses
Bt3	29-43				silty clay loam	weak	medium	prismatic	many modules and iron masses

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 5

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Compacted Sykes/Nesbitt

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: cattle feeding area

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: moderate

ADDITIONAL NOTES: compaction must be broken up to 10-12" prior to installation / low chroma matrix in the upper layers likely due to high organic cotent from heavy cattle traffic / compaction due to cattle feeding traffic

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-2	10YR 3/2			silt loam	weak	fine	granular	
Ap2	2-6	10YR 4/2			silt loam				moderatley compacted
Bt1	6-9	7.5 YR 5/4	many 10YR 5/3 concentrations		silty clay loam				severely compacted
Bt2	9-12				silty clay loam	moderate	medium	subangular blocky	
Bt3	12-18				silty clay loam	weak	medium	subangular blocky	
Bt4	18-28				silty clay loam	weak	medium	subangular blocky	
Bt5	28-35				silty clay loam	weak	medium	subangular blocky	
Bt6	35-47				silty clay loam	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 6

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes? Harpeth?

DRAINAGE CLASS: well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-5				silt loam	weak	fine	granular	
Ap2	5-10				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
AB	10-14				silt loam	moderate	medium	subangular blocky	
BA	14-18				silty clay loam	moderate	medium	subangular blocky	
Bt1	18-26				silty clay loam	moderate	medium	subangular blocky	
Bt2	26-32				silty clay loam	moderate	medium	subangular blocky	
Bt3	32-44				silty clay loam	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 7

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes

DRAINAGE CLASS: well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-7				silt loam	moderate	medium	subangular blocky	
A1	7-13				silt loam	weak	medium	subangular blocky	
A2	13-18				silt loam	weak	medium	subangular blocky	
AB	18-22				silty clay loam	weak	medium	subangular blocky	
Bt1	22-28				silty clay loam	moderate	medium	subangular blocky	
Bt2	28-30				silty clay loam	moderate	medium	subangular blocky	
Bt3	30-34				silty clay loam	moderate	medium	subangular blocky	
Bt4	34-42				silty clay loam	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 8

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Capshaw Overwash

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-10				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
Bw	10-16				silt loam	weak	medium	subangular blocky	
Ab	16-22				silt loam	weak	medium	subangular blocky	
Btb1	22-25				silty clay loam	weak	medium	subangular blocky	
Btb2	25-32				silty clay	weak	medium	subangular blocky	
Btb3	32-38			32	clay	weak	medium	subangular blocky	low chromas start in this horizon

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 9

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: ? Capshaw? Talbott? (Inclusion of shallower rock)

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES: This pit is an inclusion of shallower rock. The clay is shallower in this pit because of the shallower rock.

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-5				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
AB	5-9				silt loam	weak	medium	subangular blocky	
BA	9-16				silt loam	weak	medium	subangular blocky	
Bt1	16-19				silty clay loam	weak	medium	subangular blocky	
Bt2	19-24				silty clay loam	weak	medium	subangular blocky	
Bt3	24-31			24	silty clay	moderate	medium	subangular and angular blocky	low chroma start in this horizon
C	31-33				clay	stuctureless		massive	
R	33								

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 10

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes/Armour

DRAINAGE CLASS: well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES: Similar to pits #3 and #6

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 11

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-2				silt loam	weak	fine	granular	
Ap2	2-7				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
Bt1	7-12				silty clay loam	moderate	medium	subangular blocky	
Bt2	12-20				silty clay loam	moderate	medium	subangular blocky	
Bt3	20-26	7.5Yr 5/6 10YR 5/6	common 10YR 6/4		silty clay loam	moderate	medium	subangular blocky	mixed matrix
Btx4	26-33	10YR 5/6	common 10YR 6/3		silty clay loam	moderate	medium	subangular blocky	some brilttleness
2Btx5	33-39	2.5Y 5/6	comon 10YR 6/3		silty clay	moderate	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 12

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt-Capshaw Overwash

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-10				silt loam	weak and moderate	fine and medium	subangular blocky	
Ab	10-16				silt loam	moderate	medium	subangular blocky	
BAb	16-20				silt loam	moderate	medium	subangular blocky	
Btb1	20-25				silty clay loam	weak	medium	subangular blocky	
Btb2	25-35				silty clay loam	weak	medium	subangular blocky	
2C	35-38	10YR 5/6	common 10YR 6/2	35	silty clay	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 13

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Deep Nesbitt

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-9				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
Bt1	9-16				silty clay loam	weak	medium	subangular blocky	
Bt2	16-24				silty clay loam	weak	medium	subangular blocky	
Bt3	24-30				silty clay loam	weak	medium	subangular blocky	
Bt4	30-38		few 10YR 7/3		silty clay	moderate	medium	subangular blocky	
Btx5	38-42	10YR 5/6	common 10YR 7/2	38	silty clay	moderate	medium	subangular blocky	brittleness

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 14

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-6				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
AB	6-12				silt loam	moderate	medium	subangular blocky	
BA	12-19				silt loam	weak	medium	subangular blocky	
Bt1	19-26				silty clay loam	weak	medium	subangular blocky	
Bt2	26-29				silty clay	moderate	medium	subangular blocky	
Bt3	29-40	5YR 5/6 10YR 6/4	common 10YR 7/2	29	clay	weak	medium	subangular blocky	slight brittleness

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 15

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt-Overwash?-Sykes Overwash?

DRAINAGE CLASS: well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-11				silt loam	weak	medium	subangular blocky	
Ab	11-15				silt loam	weak	medium	subangular blocky	
ABb	15-19				silt loam	weak	medium	subangular blocky	
Btb1	19-24				silty clay loam	weak	medium	subangular blocky	
Btb2	24-27				silty clay loam	moderate	medium	subangular blocky	
Btb3	27-38				silty clay loam	moderate	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 16

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Armour Overwash

DRAINAGE CLASS: well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-12				silt loam	moderate	medium	subangular blocky	
Ab	12-29				silt loam	weak	medium	subangular blocky	
ABb	29-33				silt loam	moderate	medium	subangular blocky	
Btb1	33-38				silty clay loam	moderate	medium	subangular blocky	
Btb2	38-43				silty clay loam	moderate	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 4/12/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 17

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Deep Nesbitt? Sykes?

DRAINAGE CLASS: well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: pasture

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 5-15%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-9				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
BA	9-15				silt loam	moderate	medium	subangular blocky	
Bt1	15-21				silty clay loam	moderate	medium	subangular blocky	
Bt2	21-27				silty clay loam	moderate	medium	subangular blocky	
Bt3	27-33				silty clay loam	moderate	medium	subangular blocky	
Btx4	33-40	7.5YR 5/6	common 10YR 7/3		silty clay loam	moderate	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 3/2/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 18

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt

DRAINAGE CLASS: well/moderately well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: soybean stubble

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-5				silt loam	weak	fine	granular	
A	5-11				silt loam	weak	medium	subangular blocky	
BA	11-15				silty clay loam	moderate	medium	subangular blocky	
Bt1	15-23				silty clay loam	moderate	medium	subangular blocky	
Bt2	23-29				silty clay loam	moderate	medium	subangular blocky	
Btx3	29-37	7.5YR 4/4	common 10YR 7/4 common 10YR 6/4		silty clay loam	moderate	medium	subangular blocky	
Btx4	37-44	7.5YR 5/4	common 10YR 7/3		silty clay loam	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Terry Henry and Lonnie Norrod

DATE: 3/2/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 19

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Captina

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: soybean stubble

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	fine	granular	
Ap2	3-14				silt loam	weak	medium	subangular blocky	
AB	14-20				silt loam	moderate	medium	subangular blocky	
Bt1	20-25				silty clay loam	moderate	medium	subangular blocky	
Bt2	25-35				silty clay loam	weak	medium	subangular blocky	
Btx3	35-47	7.5YR 4/4	common 10YR 6/2, common 10YR 7/2 and common 10YR 6/4	35	silty clay loam	weak	very coarse	prismatic	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 3/2/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 20

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Armour

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: soybean stubble

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak	medium	granular and subangular blocky	
A	3-11				silt loam	weak	medium	subangular blocky	
BA	11-16				silty clay loam	weak	medium	subangular blocky	
Bt1	16-25				silty clay loam	moderate	medium	subangular blocky	
Bt2	25-33				silty clay loam	moderate	medium	subanuglar and angular blocky	
Bt3	33-39				silty clay loam	moderate	medium	subangular and angular blocky	
Bt4	39-45				clay	moderate	medium	subangular and angular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 3/2/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 21

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Sykes

DRAINAGE CLASS: well

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: soybean stubble

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-4				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
A	4-10				silt loam	weak	medium	subangular blocky	
BA	10-15				silty clay loam	weak	medium	subangular blocky	
Bt1	15-22				silty clay loam	moderate	medium	subangular blocky	
Bt2	22-32				silty clay loam	moderate	medium	subanuglar and angular blocky	
2Bt3	32-40				clay	moderate	medium	subangular blocky	
2Bt4	40-44				clay	weak	medium	subangular blocky	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 3/2/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 22

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Captina

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: soybean stubble

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap1	0-3				silt loam	weak and moderate	fine and medium	granular and subangular blocky	
A	3-10				silt loam	weak	medium	subangular blocky	
BA	10-16				silt loam	weak	medium	subangular blocky	
Bt1	16-24				silty clay loam	moderate	medium	subangular blocky	
Btx2	24-32	7.5 YR 5/4	common 10YR 7/2	24	silty clay loam	moderate	medium	subangular blocky	
Btx3	32-40	7.5 YR 4/4	common 7.5YR 6/2		silty clay loam	weak	very coarse	prismatic	

SOIL PEDON DESCRIPTION:

DESCRIBED BY: Lonnie Norrod

DATE: 3/2/2016

SITE LOCATION: Spring Hollow S/D

GEOMORPHIC DESCRIPTION: terrace

PIT #: 23

PHYSIOGRAPHIC LOCATION: Nashville Basin

SOIL SERIES: Nesbitt

DRAINAGE CLASS: moderately well drained

CLASSIFICATION: fine-silty

GROUND WATER: none

PARENT MATERIAL: alluvium/residuum

LAND COVER: soybean stubble

CLIMATE: thermic

SLOPE OF PIT:

SLOPE OF MAP UNIT: 0-5%

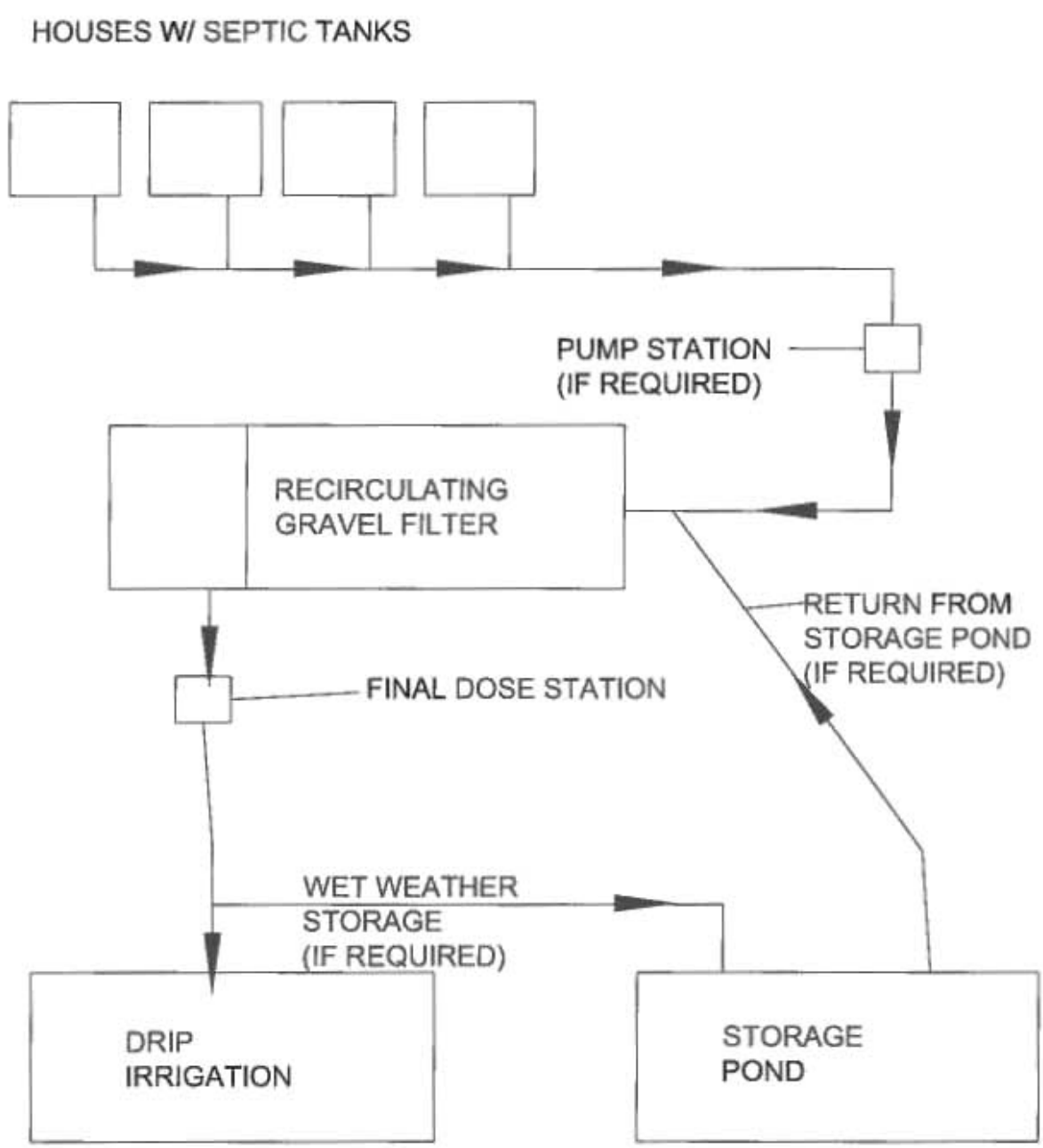
EROSION: none to slight

ADDITIONAL NOTES:

Horizon	Depth (inches)	Matrix Color	Depletions/Concentrations/Redox	Depth to low chroma mottles	Soil Texture	Soil Structure			Soil Horizon Notes:
						Grade	Size	Type	
Ap	0-2				silt loam	weak	fine	granular	
A	2-10				silt loam	weak	medium	subangular blocky	
BA	10-16				silty clay loam	weak	medium	subangular blocky	
Bt1	16-22				silty clay loam	weak	medium	subangular blocky	
Bt2	22-33				silty clay loam	moderate	medium	subangular blocky	
Btx3	33-37	7.5YR 4/4	common 10YR 6/3		silty clay loam	moderate	medium	subangular blocky	
Btx4	37-40	7.5YR 5/4	common 10YR 7/2	37	silty clay loam	moderate	medium	subangular blocky	

WASTEWATER PROCESS SCHEMATIC

PHASE I - RSF TREATMENT



WASTEWATER PROCESS SCHEMATIC