PART II

APPLICATION FOR REGISTRATION

TYPE V MUNICIPAL SOLID WASTE FACILITY

CROCKETT, TEXAS

MSW REGISTRATION NO.

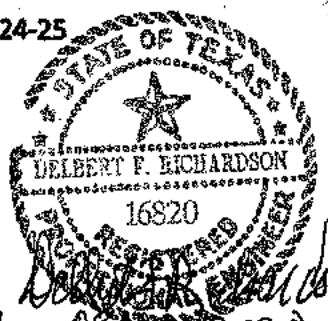
PINEY WOODS SANITATION

517 NORTH HWY 69
P.O. BOX 1417
HUNINGTON, TEXAS 75949
ANGELINA COUNTY, TEXAS
936.876.5640

15MAY2020

Delbert F. Richardson
08/05/2020
Reg F-2235

PINEY WOODS SANITATION
TABLE OF CONTENTS
PART II



Delbert F. Richardson
08/05/2020
Reg. F. 2235

Delbert F. Richardson
08/05/2020
Reg F. 2235

330.61

(a) The Piney Woods Sanitation transfer station project located in the City of Crockett has no site-specific conditions that will require any special considerations under the rules set by 330.61. This site was used by the City of Crockett as a transfer station, recycle facility and green waste drop area for many years. This area is the best suited site in the City for this type of facility to be constructed and operated.

One side of the property is an existing railroad track set on a 15 to 20 foot berm. This blocks all noise from leaving the site in the north and east side of the property. The other side of the property is in a sparsely occupied area with only a few houses next to the property. These houses existed at this location during the time the City operated their waste services.

The lay of the land is conducive to a transfer station. The area this site is going to utilize has a flat area large enough for the building then the elevation falls allowing a constructed lower level to house the receiving equipment. The facility design will be discussed more in detail later in this application. This site has no circumstances that will be detrimental to this registration.

(b) Waste acceptance plan.

(1) This transfer station Piney Woods Sanitation is registering will handle only MSW. This waste will be made up of the following waste types and streams.

(A) At the present time, Piney Woods has the contract for Houston County. We operate 20 cubic yard garbage bodies on Freightliner chassis. These trucks run the Houston County routes on a daily basis. We operate two trucks, five days per week. This is residential and commercial waste from the citizens of Houston County. These routes will produce approximately 22 tons of waste per day.

The next waste stream will be the MSW coming from the City of Crockett. The city has approximately 2,500 homes and 300 businesses inside the City limits. Piney Woods will serve Crockett with two vehicles. These routes will produce approximately 27 tons per day.

This facility will also handle unpacked roll off waste. Most of this waste will come from demolition, construction or cleanups. This waste will also be screened on arrival to assure no illegal waste has been brought in. This site will not accept manifested waste from a roll off customer. The expected volume for this waste is 10 tons per day on average.

The opportunity to dispose of waste from other Piney Woods contracts and rural customers could be accepted at this facility. This waste will be from residential and commercial generators that meet the standards set forth in the 330.3 list of definitions for a MSW type V facility. This volume is expected to be 10 tons per day.

A five year projection for volume at this facility would be set at 73,500 tons of waste moved through this facility to a TCEQ permitted disposal facility.

Any waste received at this facility will leave the site within 24 hours of being received on week days. Waste that will come in on Friday's could be kept for 72 hours over the weekend. This waste would be moved to a TCEQ disposal facility on Monday morning.

The disposal plan for this facility will call for the use of two TCEQ permitted landfills. The 1st site will be Angelina County Landfill. This is located on FM 58 behind the Angelina County Airport. The TCEQ permit number for this facility is 2105A.

The 2nd disposal that we will use as needed is the Polk County Landfill, operated by Santek Environmental Services. The TCEQ permit number for this site is 1384A. This site is located off Hwy 59 in Leggett, Texas.

(B) This waste comes from 2,000 Houston county residential and commercial accounts. The population of Houston County was 23,732 in the 2010 census. The county reports very small increase in the population in the last 10 years.

The City of Crockett population was recorded in the 2010 census at 6950. The city also reported very little growth in the last 10 years.

One reason the City of Crockett gave us the waste contract is because this transfer facility will be open to the citizens for public dumping. The City and county had through another contractor, a disposal facility for public use. This site was closed to the public last year. This site has other situations that will likely cause it not to open again. The waste brought to the Piney Woods facility from the citizens will be straight MSW.

No illegal waste will be allowed. The facility will institute a screening process to assure no prohibited waste will be accepted. The volume expected from the public will be minimal. We expect less than 5 tons per day from the public sector.

Piney Woods expects at the start of operations, to receive approximately 60 to 70 tons per day. This is the waste that Piney Woods hauls by route truck on a daily basis. This site will be open to the public for their use. Because of no short term record, the amount of waste from this stream can only be estimated. The five year estimate is 73,500 tons of MSW.

(C) Not applicable

(2) The Piney Woods Sanitation transfer facility projected for Crockett, Texas, is registering the type V transfer station set out in 330.9. This facility is registered to take up to 125 tons per day. The population of Houston County is less than 85,000 and the Crockett population is less than 50,000. This is the criteria set up by TCEQ rule 330.9 for type V registered transfer stations.

330.61

(c) General location map

(1) A wind rose for Crockett was unavailable. Two wind roses for Lufkin, Texas are provided. These wind roses are from July and August. Lufkin is 45 miles from Crockett and was the closest available wind rose. This information came from the USDA Wind Rose Resource site.

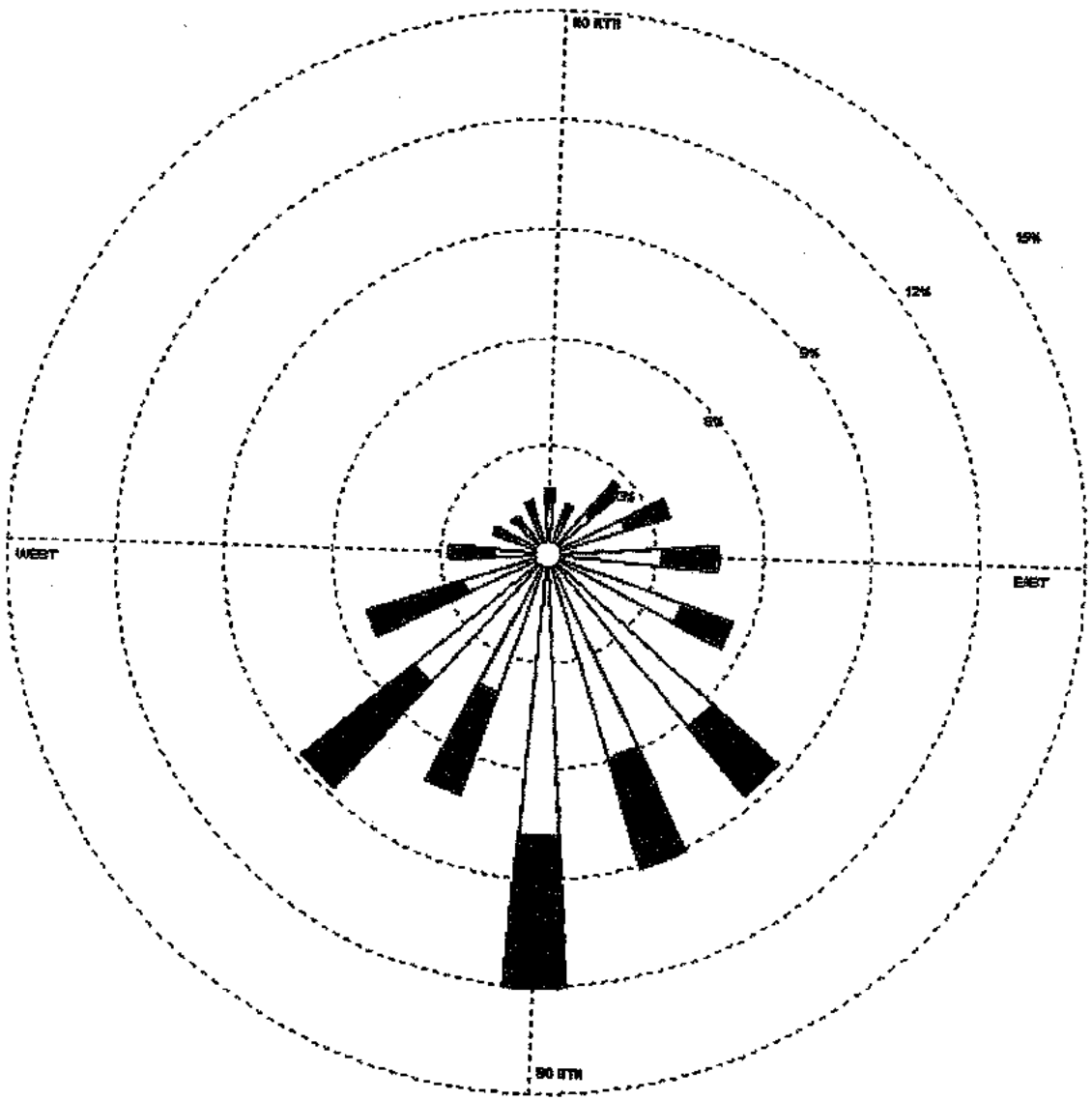
Index of /ftpref/downloads/climate/windrose/texa

Name	Last modified	Size	Description
Parent Directory		-	
abilene/	19-Feb-2010 09:26	-	
amarillo/	19-Feb-2010 09:26	-	
austin/	19-Feb-2010 09:26	-	
brownsville/	19-Feb-2010 09:26	-	
corpus_christi/	19-Feb-2010 09:26	-	
el_paso/	19-Feb-2010 09:26	-	
fort_worth/	19-Feb-2010 09:26	-	
houston/	19-Feb-2010 09:26	-	
lubbock/	19-Feb-2010 09:26	-	
lufkin/	19-Feb-2010 09:26	-	
midland/	19-Feb-2010 09:26	-	
port_authur/	19-Feb-2010 09:26	-	
san_angelo/	19-Feb-2010 09:26	-	
san_antonio/	19-Feb-2010 09:26	-	
victoria/	19-Feb-2010 09:26	-	
waco/	19-Feb-2010 09:26	-	
wichita_falls/	19-Feb-2010 09:26	-	

PINEY WOODS SANITATION PG 7 PART II

WIND ROSE PLOT

Station #93987 - LUFKIN/FAA AIRPORT, TX



Wind Speed (m/s) > 11.06 8.49 - 11.06 5.40 - 8.49 3.34 - 5.40 1.80 - 3.34 0.51 - 1.80	MODELER Sara West	DATE 8/29/2002	COMPANY NAME USDA-ARS
	DISPLAY Wind Speed	UNIT m/s	COMMENTS
	AVG. WIND SPEED 3.23 m/s	CALM WINDS 22.00%	
	ORIENTATION Direction (blowing from)	PIOT YEAR-DATE-TIME 1961 Jul 1 - Jul 31 Midnight - 11 PM	

WRPLOT View 7.0 by Lakes Environmental Software - www.lakes-environmental.com

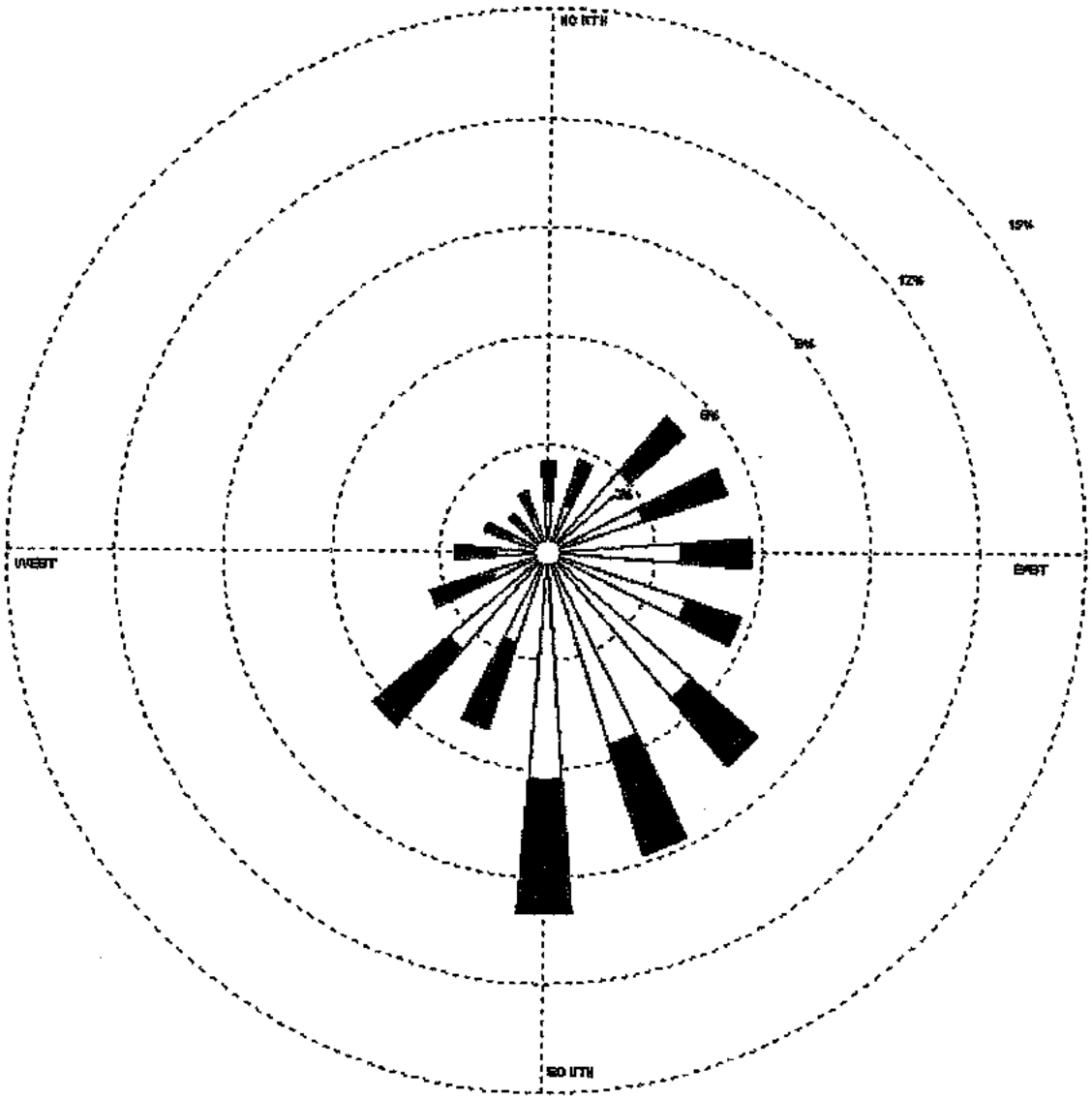
RECEIVED
MAY 15 2020

PINEYWOODS SANITATION P6 8

PART II

WIND ROSE PLOT

Station #03937 - LUFKIN/FAA AIRPORT, TX



Wind Speed (m/s) > 11.06 5.49 - 11.06 3.60 - 5.49 3.34 - 5.40 1.80 - 3.34 0.51 - 1.80	MODELER Sara West	DATE 6/29/2002	COMPANY NAME USDA-ARS
	DISPLAY Wind Speed	UNIT m/s	COMMENTS
	AVG. WIND SPEED 3.28 m/s	CALM WINDS 24.08%	
	ORIENTATION Direction (blowing from)	PLOT YEAR-DATE-TIME 1961 Aug 1 - Aug 31 Midnight - 11 PM	

WRPLOT View 3.3 by Lakes Environmental Software - www.lakes-environmental.com

MAY 15 2020

PINEY WOODS SANITATION PG 9 PART II

330.61
(c)

(2) There are no water wells within 500 feet of the proposed facility. All residents and commercial properties are on Crockett city water and sewer systems.

(3) All structures within 500 feet of proposed facility. There are five structures within five hundred feet of this site. See map (Pg 12)

(1) Creek side RV Park, 405 Navarro, Crockett, Texas
(2)Home at 315 Durrett, Crockett, Texas
(3) Home at 302 Durrett, Crockett, Texas
(4)Home at 265 Durrett, Crockett, Texas
(5) Paul Welding Shop, 426 E. Pease, Crockett, Texas

(4) Schools, licensed day=care facilities, churches, hospitals, cemeteries, ponds, lakes and residential, commercial, and recreational area within on mile of the facility.

This site for the proposed facility is owned by the City of Crockett and is located in an area that is in a central location for the City. The City limits with in Loop 304 are only 1½ miles wide east to west. The north south distance is only 3 miles inside the loop. Thus a mile distance would encompass more than half the City. To list and show on a map, all of the requested information would list half the City. Since this is a transfer station and not a landfill, it will not have the impact on these amenities. See map (pg 13) .

(5) Piney Woods Sanitation has the waste service contract for Houston County and is therefore operating 360 degrees around Crockett. Because of this contract, we might use any one of the major state and federal highways in Crockett getting to and from this facility. The routing of this contract has two to three loads per day coming to the facility. See Map (Pg 14)

These highways are:

Hwy 21, north and south
Hwy 7, east and west
Hwy 287, north and south
Hwy 19, north and south

For the Crockett contract, we will use all the streets in the City to service the entire community. Getting directly to Navarro Rd where the transfer station will be located, State Highways 287, 19, 7, and 21 will be utilized. Also Loop 304 will be used to circle the city.

The entire use of this facility should see less than 15 commercial waste trucks per day. This small amount of vehicular traffic will in no way impact adversely the roads in Crockett. This facility will be open to the public for disposal of items from their homes. This majority of this traffic will be small personal vehicles and should not adversely impact the roads.

330.61

These roads and highways are shown on maps (Pg 13, Pg 14).

(6) latitude – 31.32710712 longitude – 95.47264076

(7) Town Branch, a drainage tributary runs on the north/northeast side of the property. See Map (Pg 15)

(8) Airports within 6 miles of facility. The Houston County Airport is located on Hwy 7 going east out of Crockett. It is approximately 5 ½ miles from the transfer station location. See map (Pg 16).

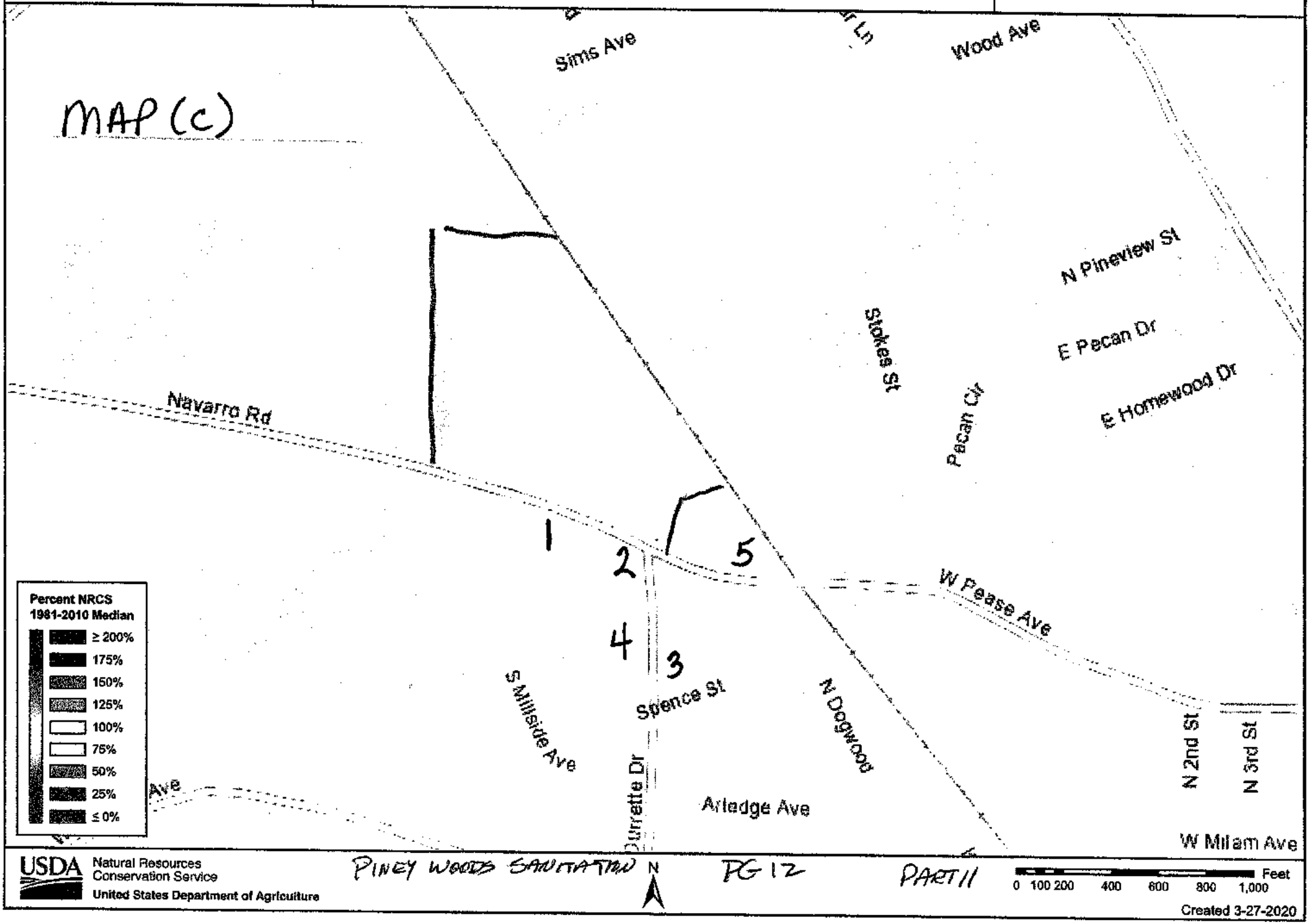
(9) The property boundary of the facility. See Map (Pg 17).

(10) drainage, pipeline, and utility easements within or adjacent to facility. See Map (Pg 18).

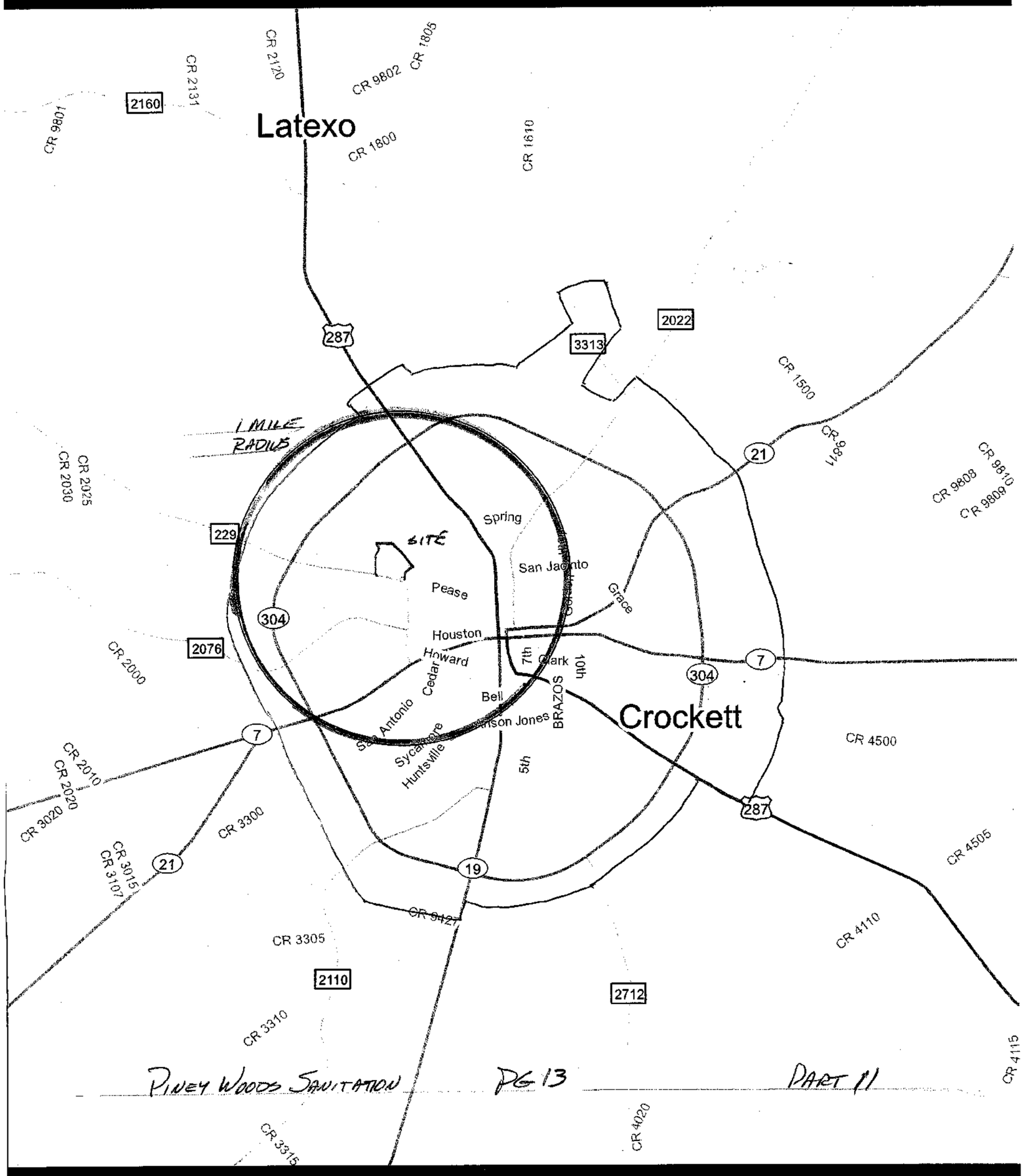
(11) facility access control features. There is only one gate to facility from Navarro Rd. A 15 foot railroad berm runs the entire length on the north east side of the site. The facility is completely fence on three sides, the north, west, and south side of the facility. See Pictures Pgs 19-20-21.

(12) There are no archaeological sites, historical sites, and sites with exceptional aesthetic qualities adjacent to the facility.

Snow Water Equivalent	Percent NRCS 1981-2010 Median	March 26, 2020, end of day



HOUSTON COUNTY - Crockett



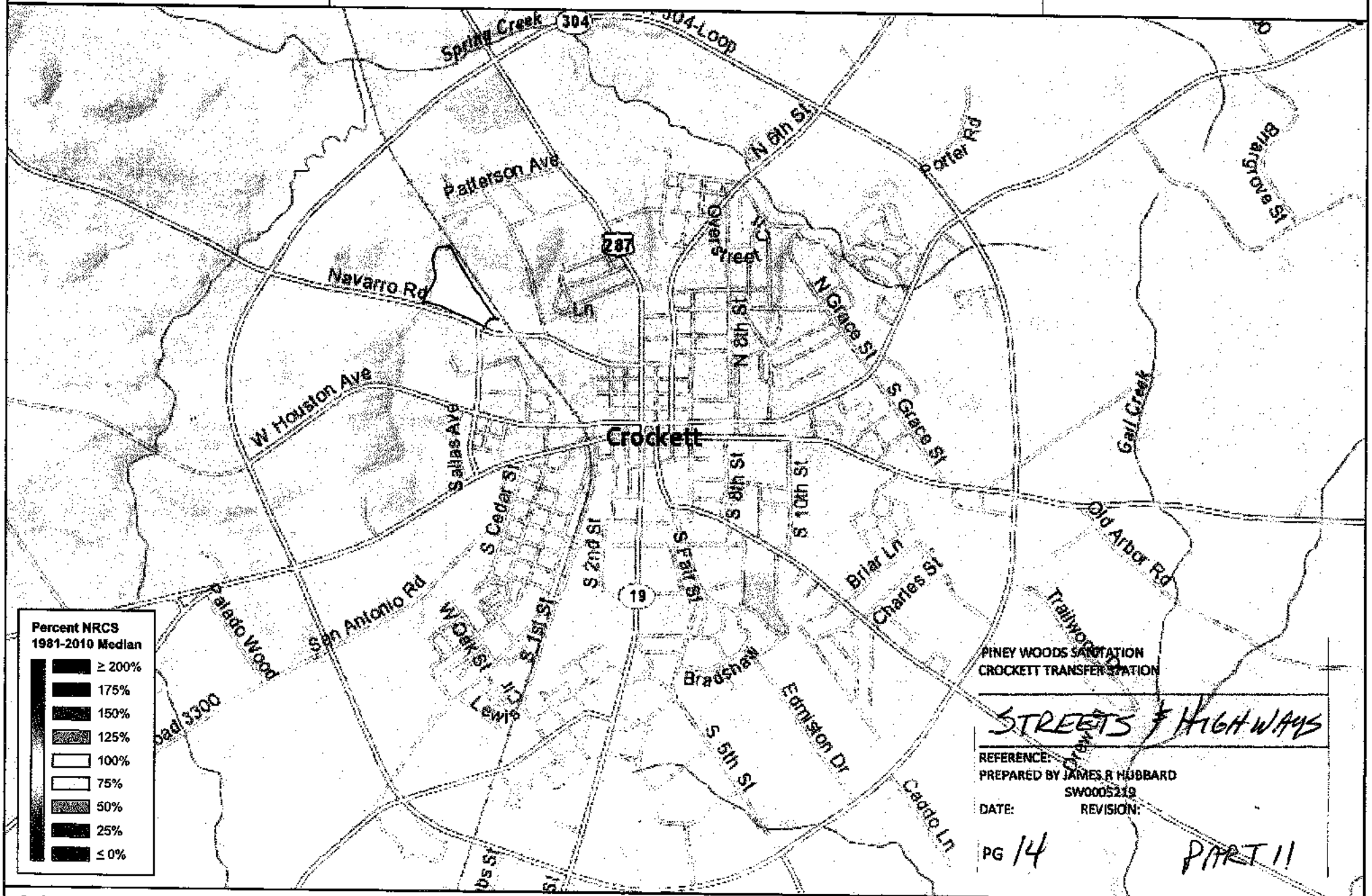
PINEY WOODS SANITATION PG 13 PART II

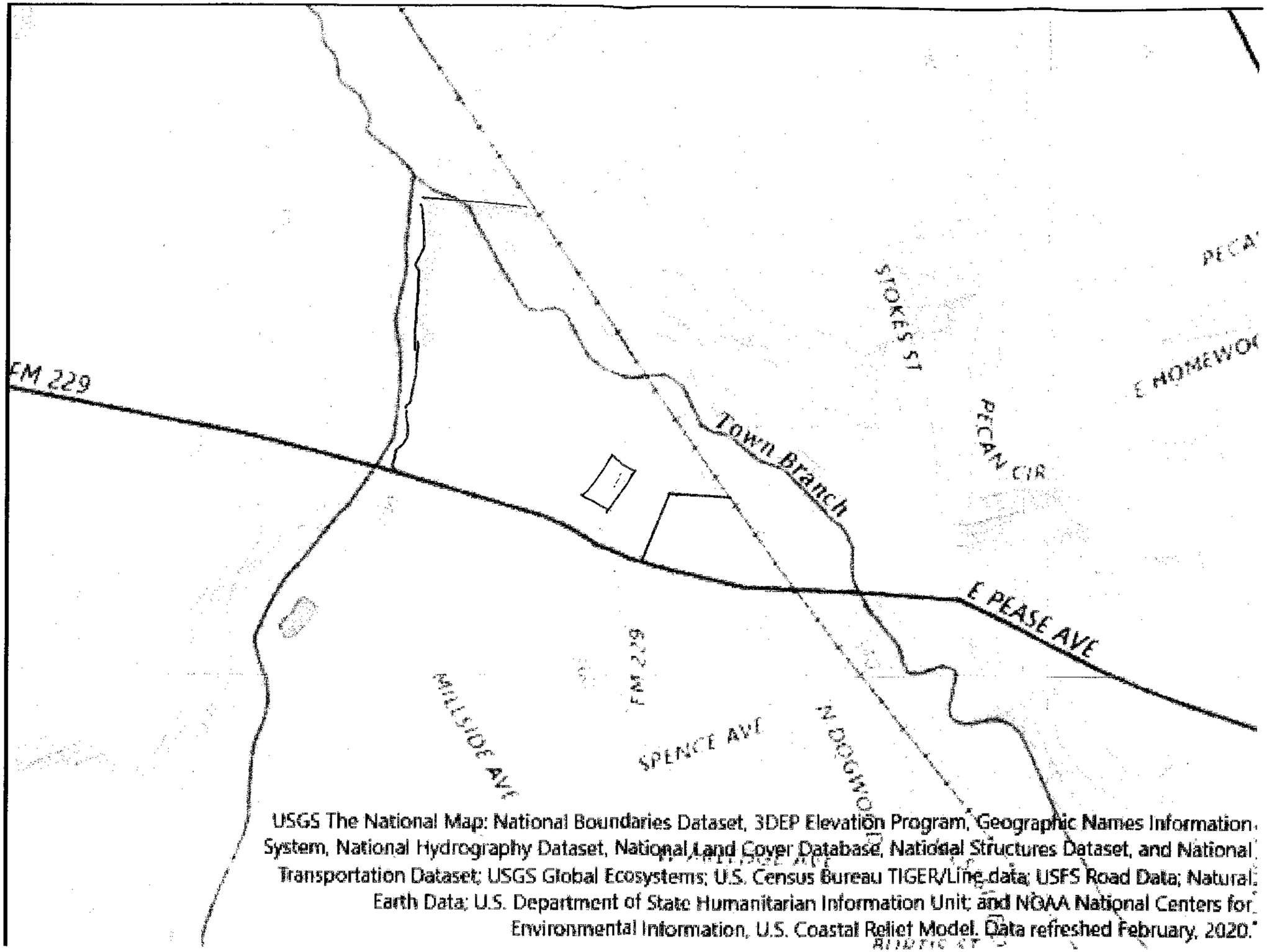
Texas Department of Transportation
Transportation Planning and Programming Division
Data Analysis, Mapping and Reporting Branch
March 23, 2020

0 0.5 1 Miles

Texas Department of Transportation

Snow Water Equivalent	Percent NRCS 1981-2010 Median	March 26, 2020, end of day



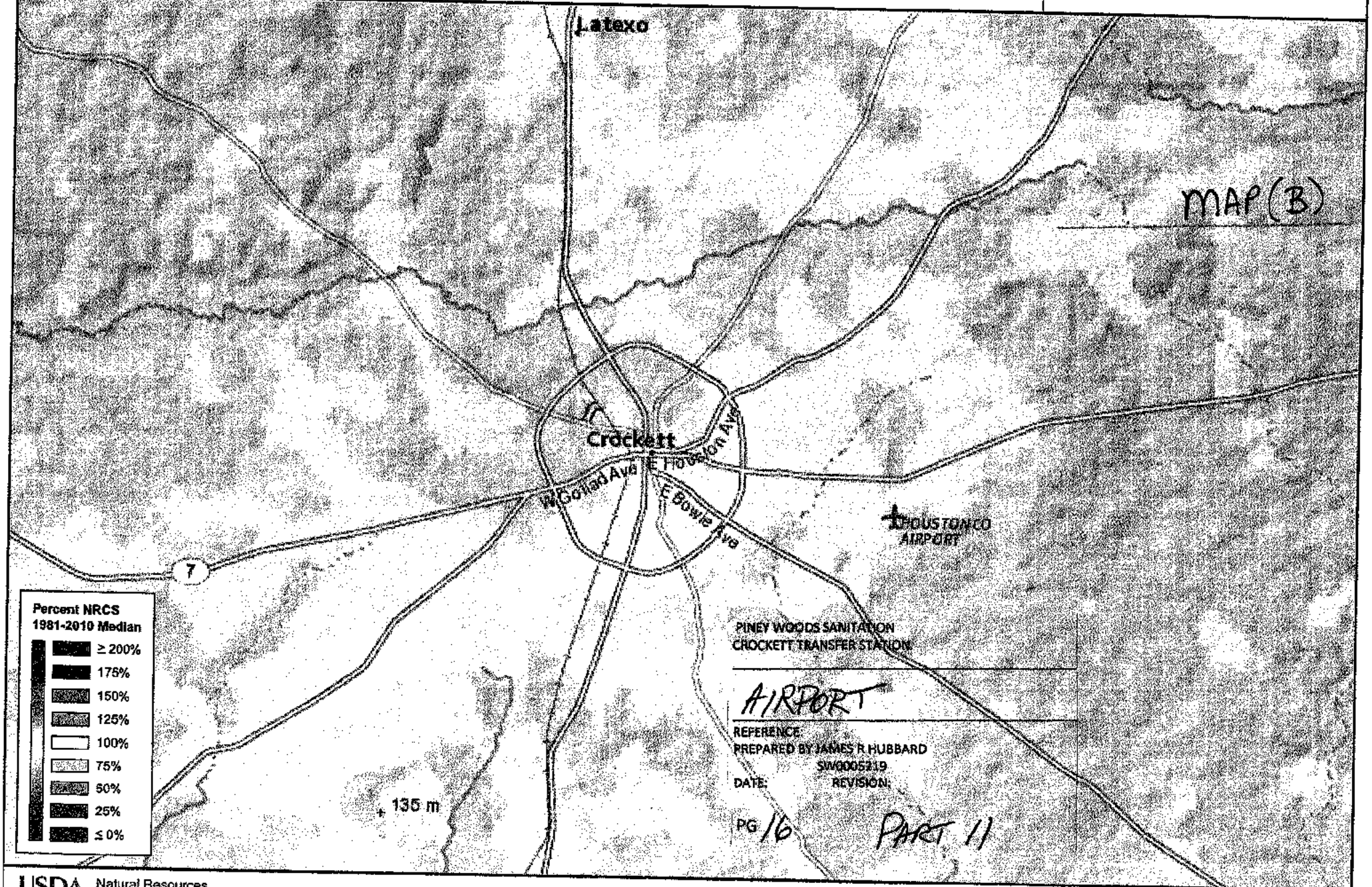


USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed February, 2020."

Pg 15 Part II

Piney Woods Sanitation

Snow Water Equivalent	Percent NRCS 1981-2010 Median	March 26, 2020, end of day

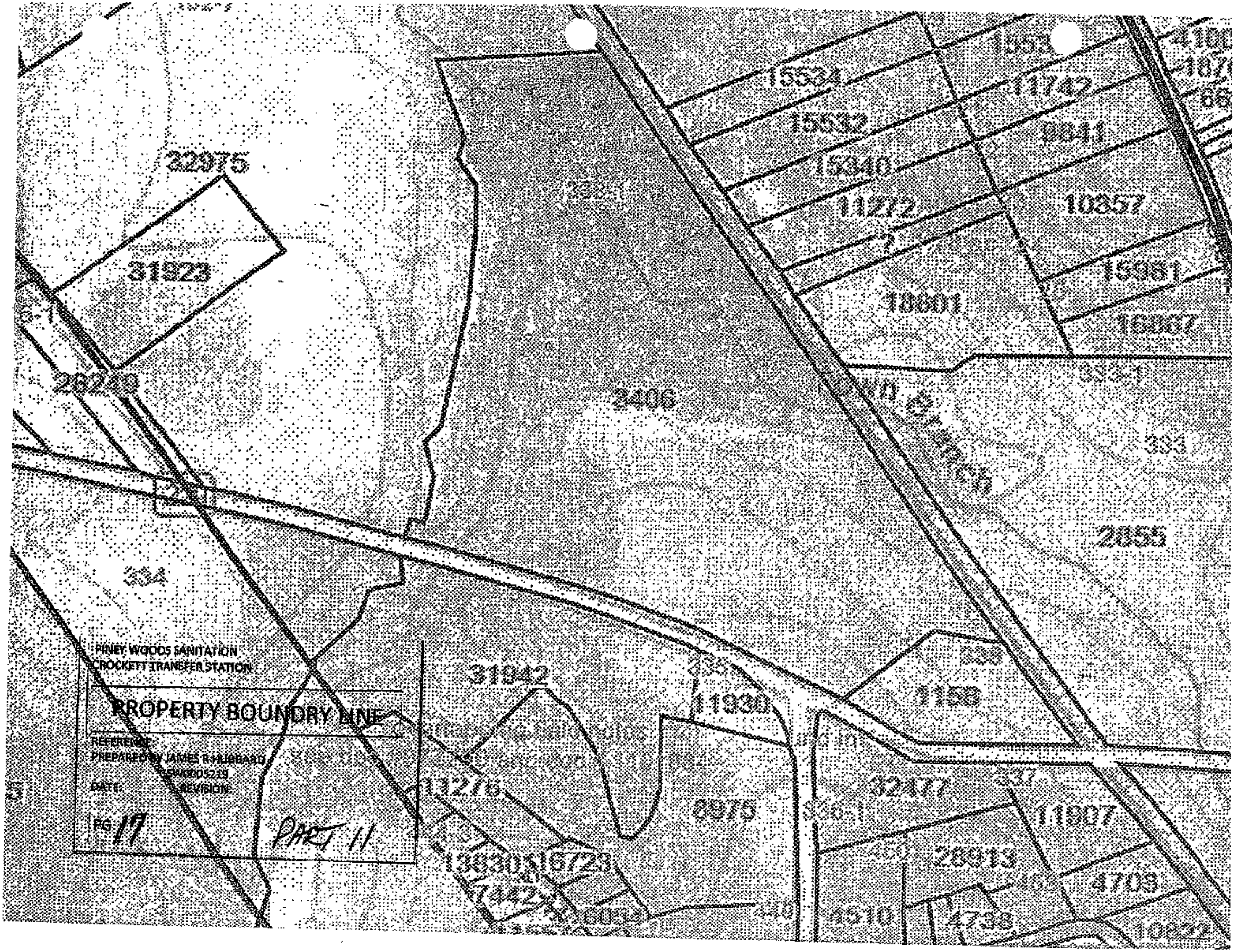


USDA Natural Resources Conservation Service
United States Department of Agriculture

N

0 0.5 1 2 3 4 5 Miles

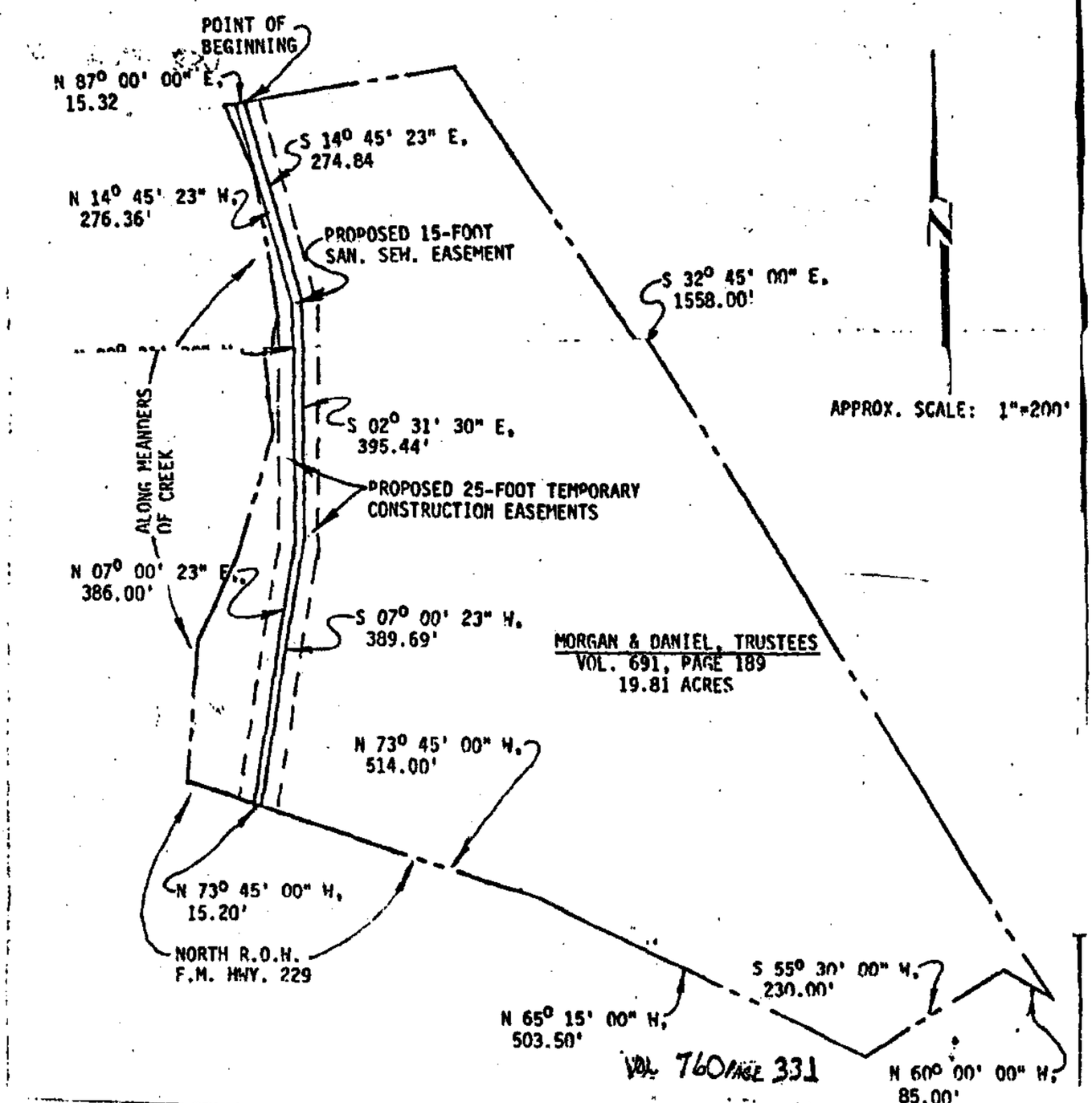
Created 3-27-2020


32975
31923
3406
15534
15532
15340
11272
11742
8841
10357
18801
15951
2855
333
334
31942
11930
1158
32477
11907
8975
28913
4703
11276
PINEY WOODS SANITATION
CROCKETT TRANSFER STATION
PROPERTY BOUNDRY LINE
REFERENCE:
PREPARED BY: JAMES R HUBBARD
DATE:
REVISION:
PG 17
PART 11

VOL 760 PAGE 330

CITY OF CROCKETT, TEXAS

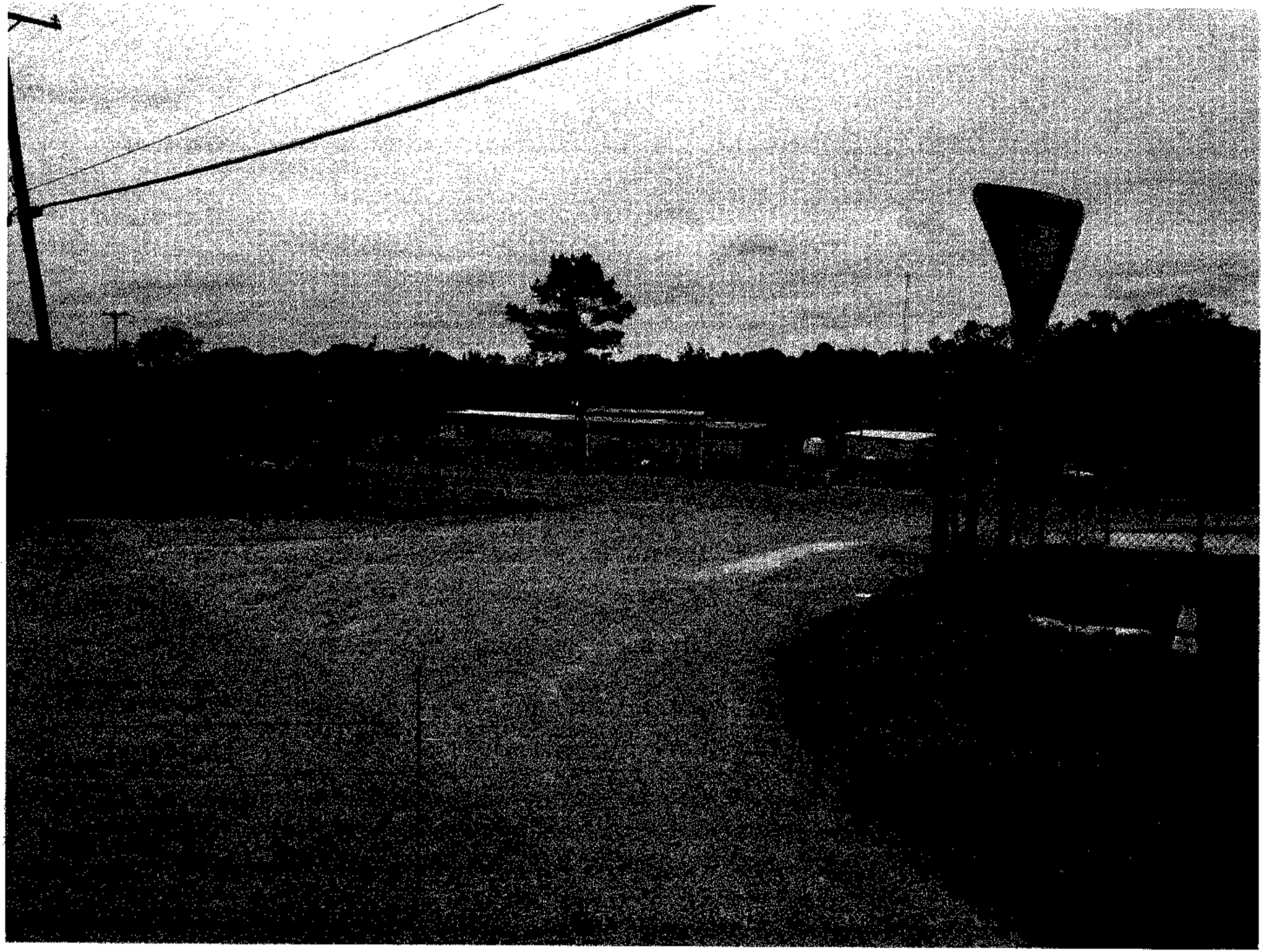
PROPOSED 15-FOOT SANITARY SEWER EASEMENT

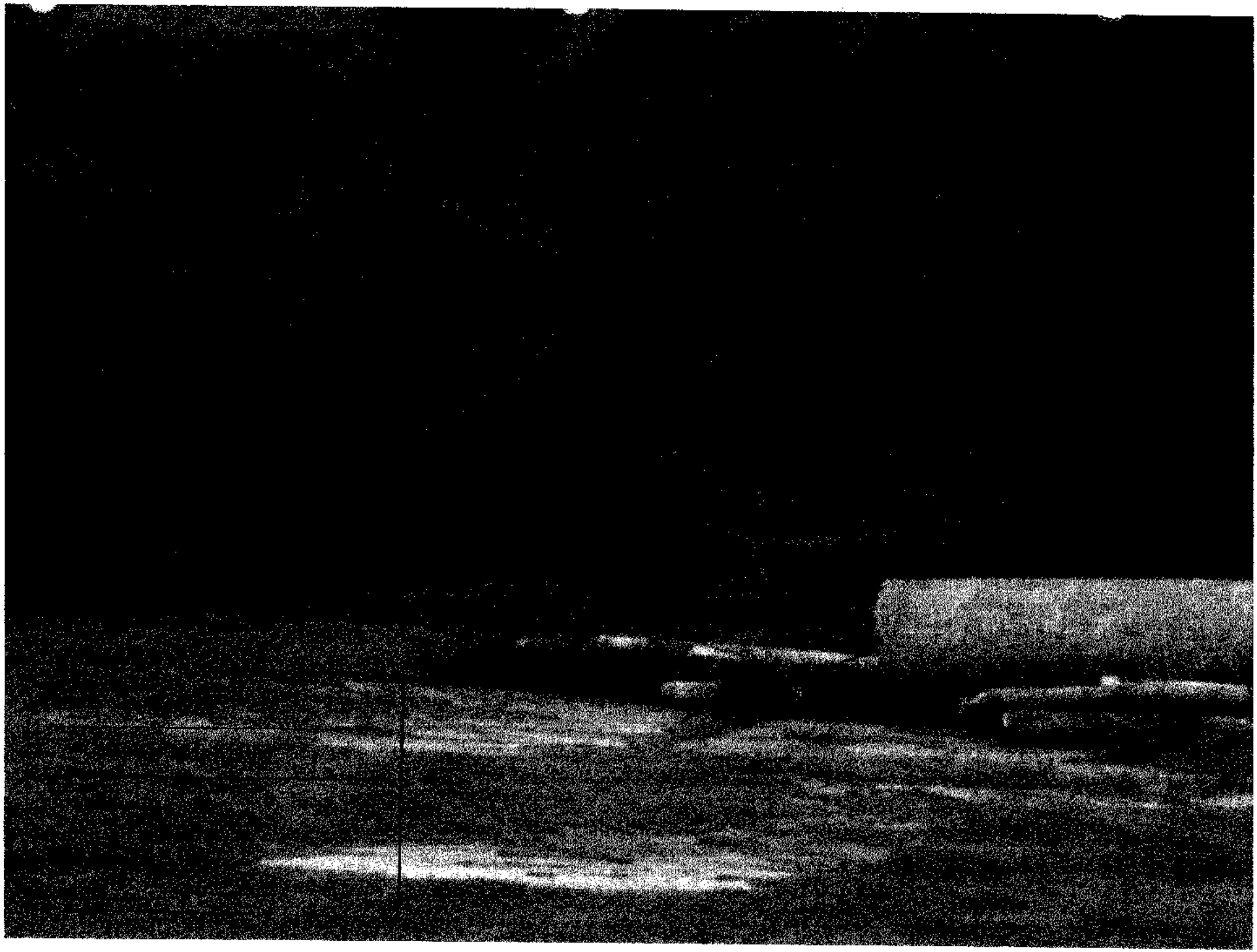


THE STATE OF TEXAS }
County of Houston } I, Terri Meadows, County Clerk in for Houston County, Texas, do hereby certify that the foregoing is a true and correct copy as filed in this office.
Given under my hand and seal of office, this 8th day of June A.D. 2020
By _____ Deputy
Terri Meadows, County Clerk, Houson Co., Texas

PINEY WOODS SANITATION PG 18 PART 11


45





330.61

(d) Facility layout maps

(1) Outline of the unit(s) See map (Pg 23-24-25)

(2) General locations of main interior facility roadways. See map (Pg 25)

(3) No monitor wells required for transfer station facility

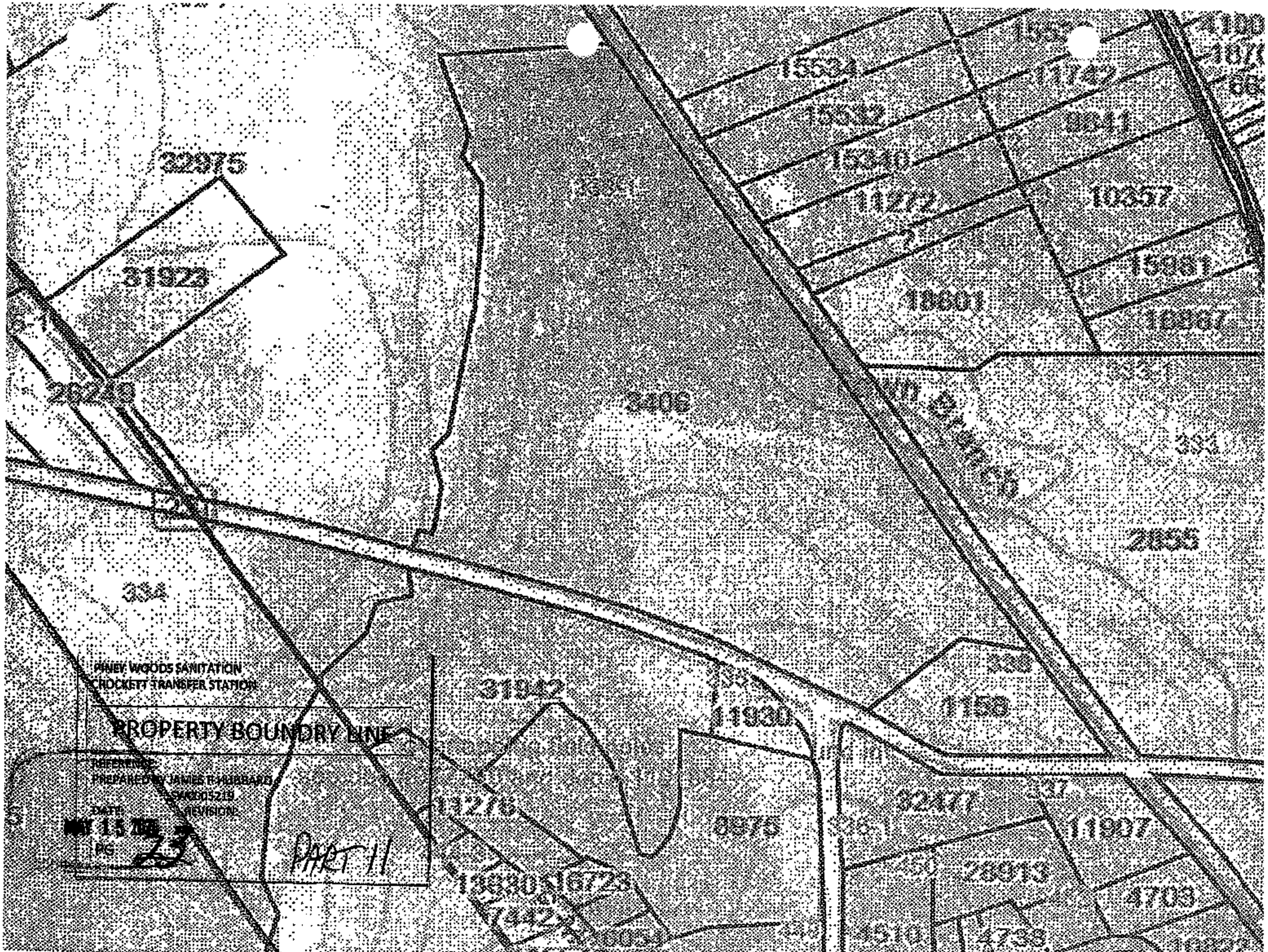
(4) Location of buildings. See map (Pg 25)

(5) No other graphic notes or marginal explanatory notes necessary to communicate the proposed construction of the facility.

(6) Fencing; this site has 6 foot chain link fence with 3 strand barbwire on all 4 sides. The east side has a railroad set on a 15 berm. This site is secure. See pictures (Pg26, Pg27)

(7) Provision for maintenance of any natural windbreaks. There is a rail road on the north east side of the property. This is a 15 foot high berm with the tracks on the top of the berm. This berm runs the entire length of the facility property. This berm will be maintained by the rail road as needed through the life of this facility. The actual disposal facility will be completely enclosed thus eliminating a need for screening from the public. See picture (Pg 27)

(8) All site entrance roads from public access See picture (Pg 28).


PINEY WOODS SANITATION
CROCKETT TRANSFER STATION
PROPERTY BOUNDRY LINE
REFERENCE:
PREPARED BY JAMES F HUBBARD
DATE:
REVISION:
MAY 15 2008
PG 23
PART II
32975
31922
26249
334
3406
2855
331
31942
11930
1158
11270
8975
32477
11907
28913
4703
4510
4739
16723
15534
15532
15340
11272
18801
11747
9641
10357
15951
16887

PINEY WOODS SANITATION
CROCKETT TRANSFER STATION

FACILITY LOCATION ON SITE

REFERENCE:
PREPARED BY JAMES R HUBBARD
SW0005219
DATE: REVISION:

PG 24 PART II

MAP (A) PG

OUTLINE OF THE UNIT
(IN YELLOW)

FENCING COMPLETELY AROUND THE SITE

MAIN INTERIOR ROAD WAYS

BUILDINGS (EXISTING CITY OWNED BUILDINGS)

BUILDING
(TRANSFER STATION)

SITE ENTRANCE ROAD

BUILDINGS (EXISTING CITY OWNED BUILDINGS)

MAIN INTERIOR ROAD WAYS

RAIL ROAD BERM

BUILDINGS (EXISTING CITY OWNED BUILDINGS)

city of crockett

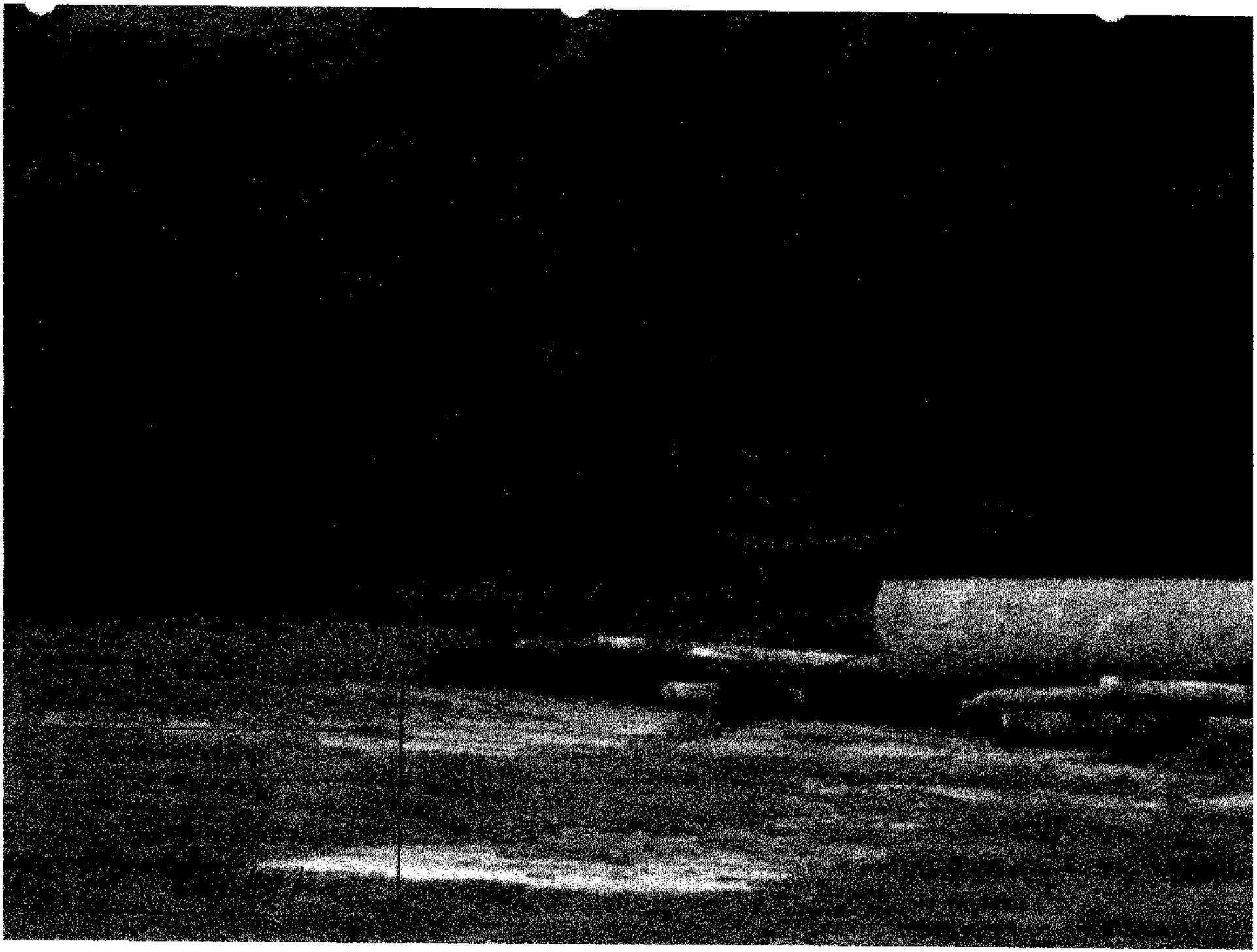
15534
16532
16340
11222
10801
5490
3832
16533
11742
9841
10357

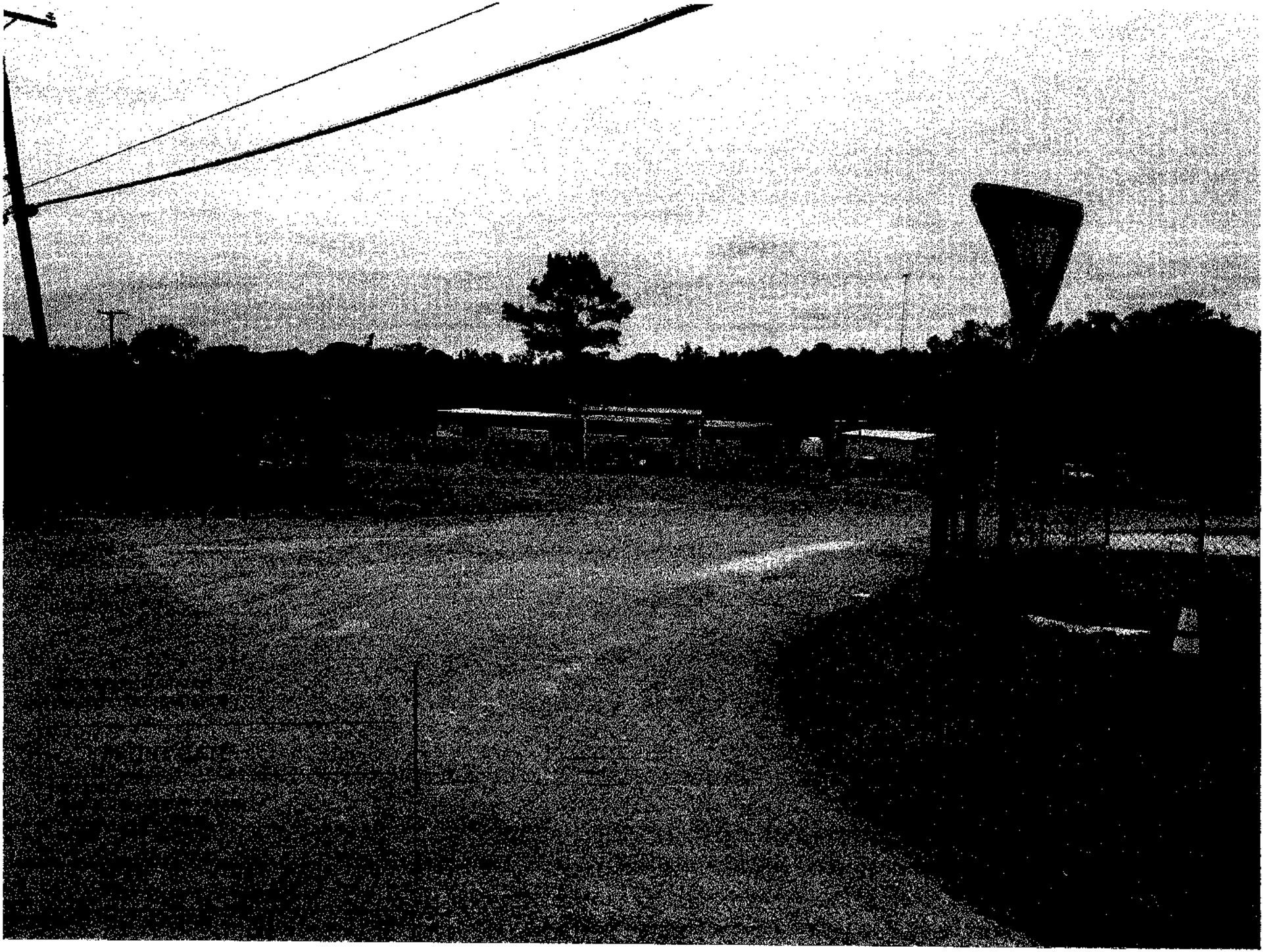
REFERENCE:
PREPARED BY JAMES R HUBBARD
SWOOD5219
MAP 15 2020
REVISION:

INTERNAL ROAD MAP

PART 11


45

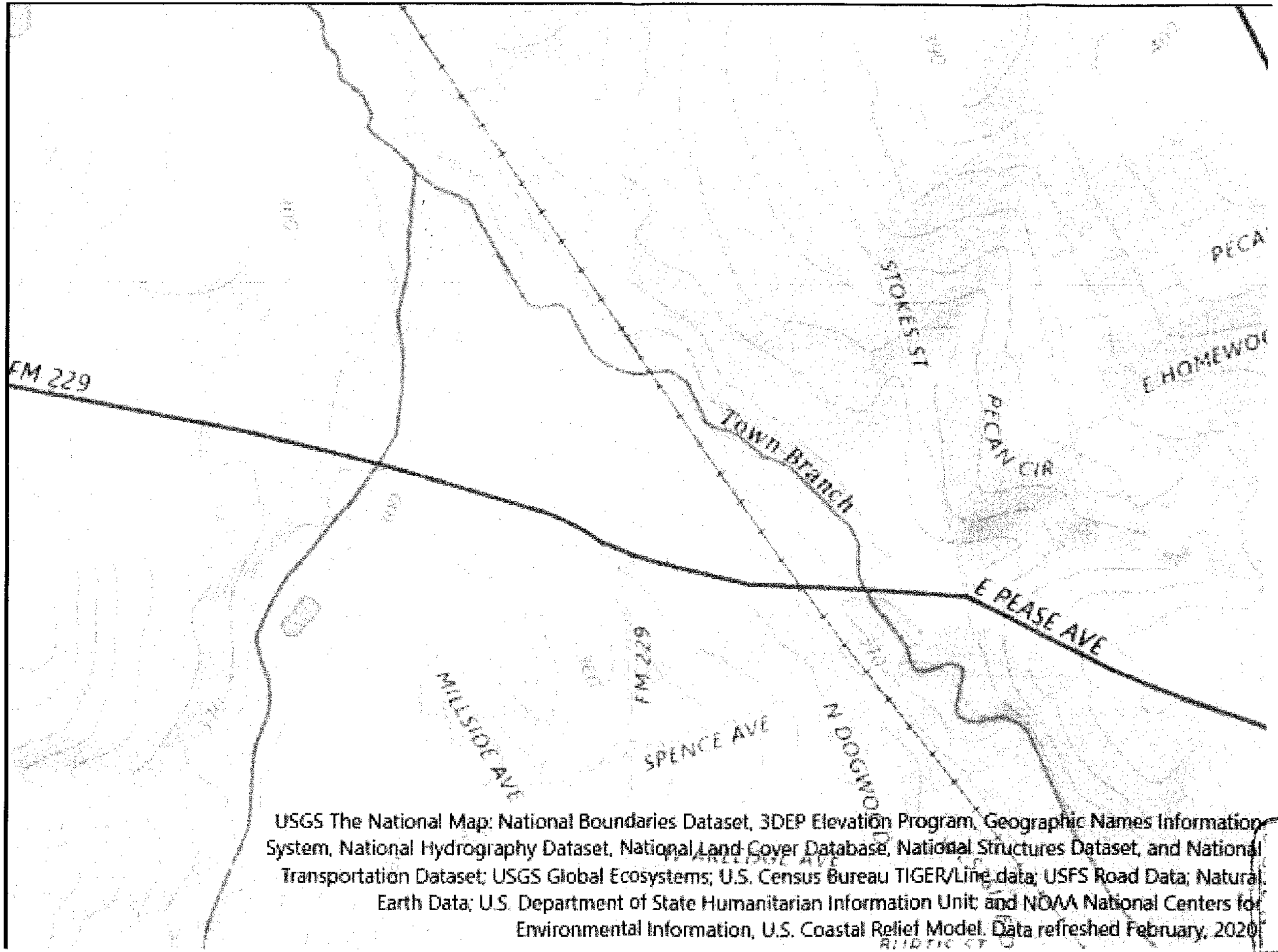




330.61

(e) General topographic map. See map (Pg 30) .

(f) Aerial photograph, See map (Pg 31).



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed February, 2020.

Pg 30 Part II

PINEY WOODS SANITATION

PINEY WOODS SANITATION
CROCKETT TRANSFER STATION

AERIAL MAP

REFERENCE:
PREPARED BY JAMES R HUBBARD
SW0005219
DATE: REVISION:

PG 31 PART II

330.61

(g) Land use map. This facility was used as a transfer station. It was used for this purpose for many years. This property has been and remains zone by the City so a solid waste disposal facility is an acceptable use. This property is surrounded by heavily wooded areas, a railroad track, no farming, two business and 5 houses within 500 feet. See Map Pg 34 for adjacent activities.

The location of city entities within a mile of the facility, as requested by 330.61(g), is designed to assure the surrounding areas will successfully co-exist with a disposal facility. This site has been a disposal facility for many years and so no change in land use will be seen with a new facility. The City of Crockett is only 1 ½ miles wide east to west. To list every establishment within a mile of the site would involve 1/2 of the City businesses, schools, etc. Map (Pg 35), part II, shows the area covered within a mile of the site. Part I lists the property owners within a ¼ mile. Since there will be no impact from this facility, this extensive one mile listing is not necessary.

There are no uses on this property at present except for a small amount of City storage. Within the tract, the Town Branch, a small drainage tributary flows on the north side of the proper. It parallels the rail road berm and because it is several hundred feet from this facility, will not affect this registration.

On the north side of the property lays a sewer trunk line. It parallels the rail road berm and goes the full length of the property. This facility will be tied into this line to process water from the site. This tie in with the sanitary sewer will handle task required by TCEQ rule 330.63(b)(3)(A)(B)(C).

(h) Impact on surrounding area.

(1)(2)(3) As discussed in previous paragraphs, this facility has been used as a solid waste transfer station and recycle facility for many years prior to this registration application. The land use within a quarter mile this site is a majority of residents and two businesses. Five houses and 2 business within 500 feet of the site. None of these have been impacted in previous years of operation as a solid waste facility and because the new facility will be developed with the best available technology, no impacts of any kind will be expected.

There is no published zoning map for Houston County. The City of Crockett used this facility for a transfer station for many years, so this track is zoned by the city for this use.

There is no county information for a five mile radius from the site concerning growth trends or major developments.

This is a transfer station registration application located on City property that Crockett operated a waste facility here for many years. There is no access to this site other than the main access gate. A one mile distance from this facility would encompass more than 1/2 of the City amenities. See diagram (Pg 35).

The population density and proximity to this facility by this measurement is not instrumental to this registration.

There are no wells within 500 feet of this site. All structures are on city water and sewer.

(i) Transportation

(1) This proposed facility is located in the heart of Crockett. This site has access to all the major highways by leaving the site on Navarro Rd or FM 229. Leave the site on FM 229 going west and you are less than ½ mile to Loop 304. Loop 304 accesses Highways 7, 21,287 and 19. These main highways will be used for route trucks and citizens coming to the station and the transfer container going to a TCEQ permitted landfill. Inside the loop also has these same highways going through plus smaller roads. The smaller roads are only for the actual residential and commercial service provided by the route trucks. See map Pg 36.

(2) Providing data on the volume of traffic with in one mile of the site will be irrelevant to this registration. 1/2 of the cities normal traffic pattern is within the one mile radius. See map Pg 35. The traffic concerned in 330.61(i)(2) is increased volume of traffic coming to the facility. Piney Woods Sanitation will have 5 to 7 trucks per day come to the facility. This site will be open for public use. The number of citizens coming to this facility is unknown. This public traffic will be a majority of small vehicle such as pickup trucks or cars. The expected increase of traffic is less than 1% of the existing traffic and will not cause a problem as far as traffic patterns on the roads leading to the facility. No improvements to the road will be necessary.

(3) Piney Woods Sanitation does not expect more than 30 vehicles total, including garbage trucks and small citizen vehicles.

(4) There will be no road improvements or changes to the existing roadways.

(5) Not applicable

SEWER
BOUNDRY

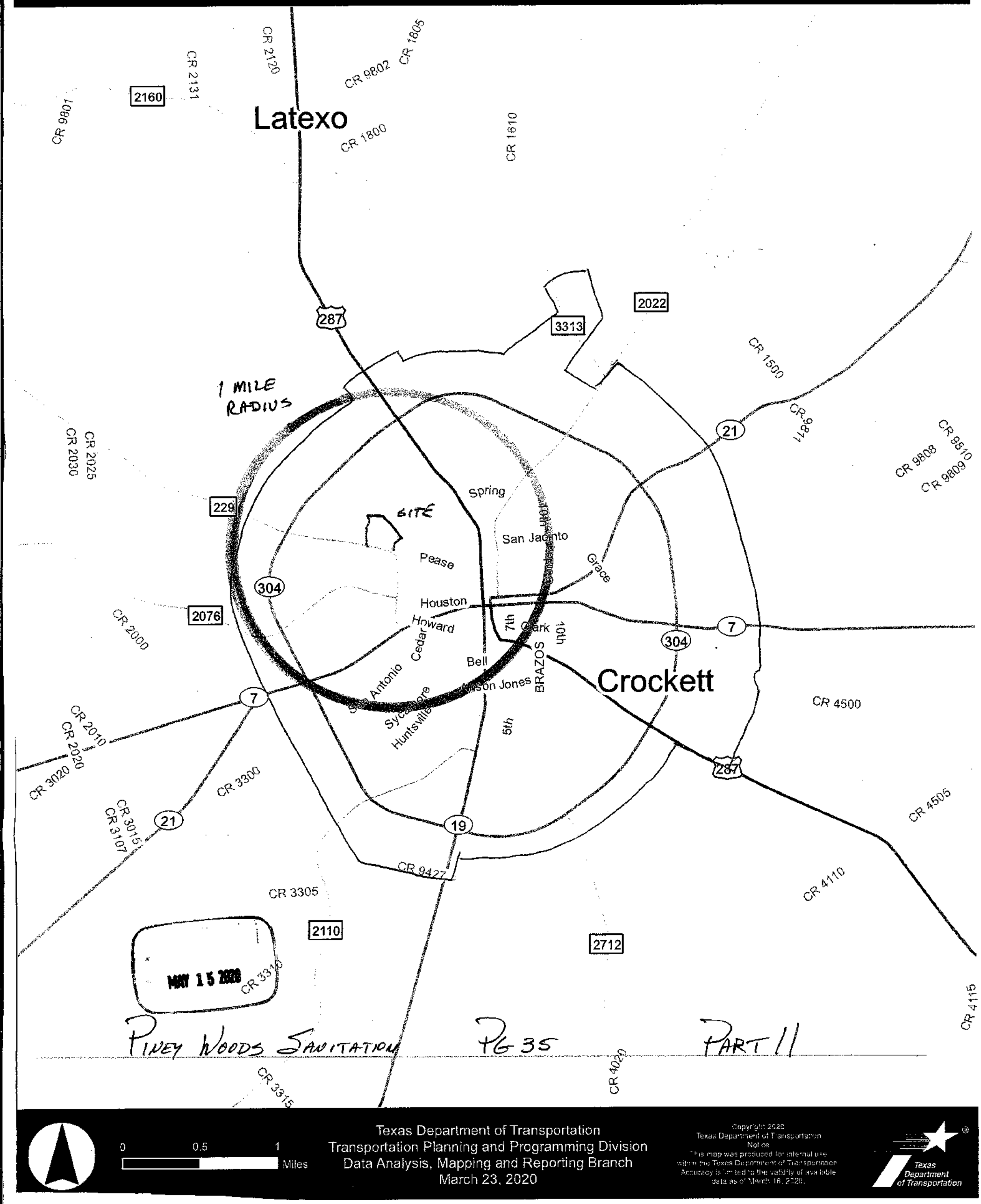
PINEY WOODS SANITATION
CROCKETT TRANSFER STATION

Land Use

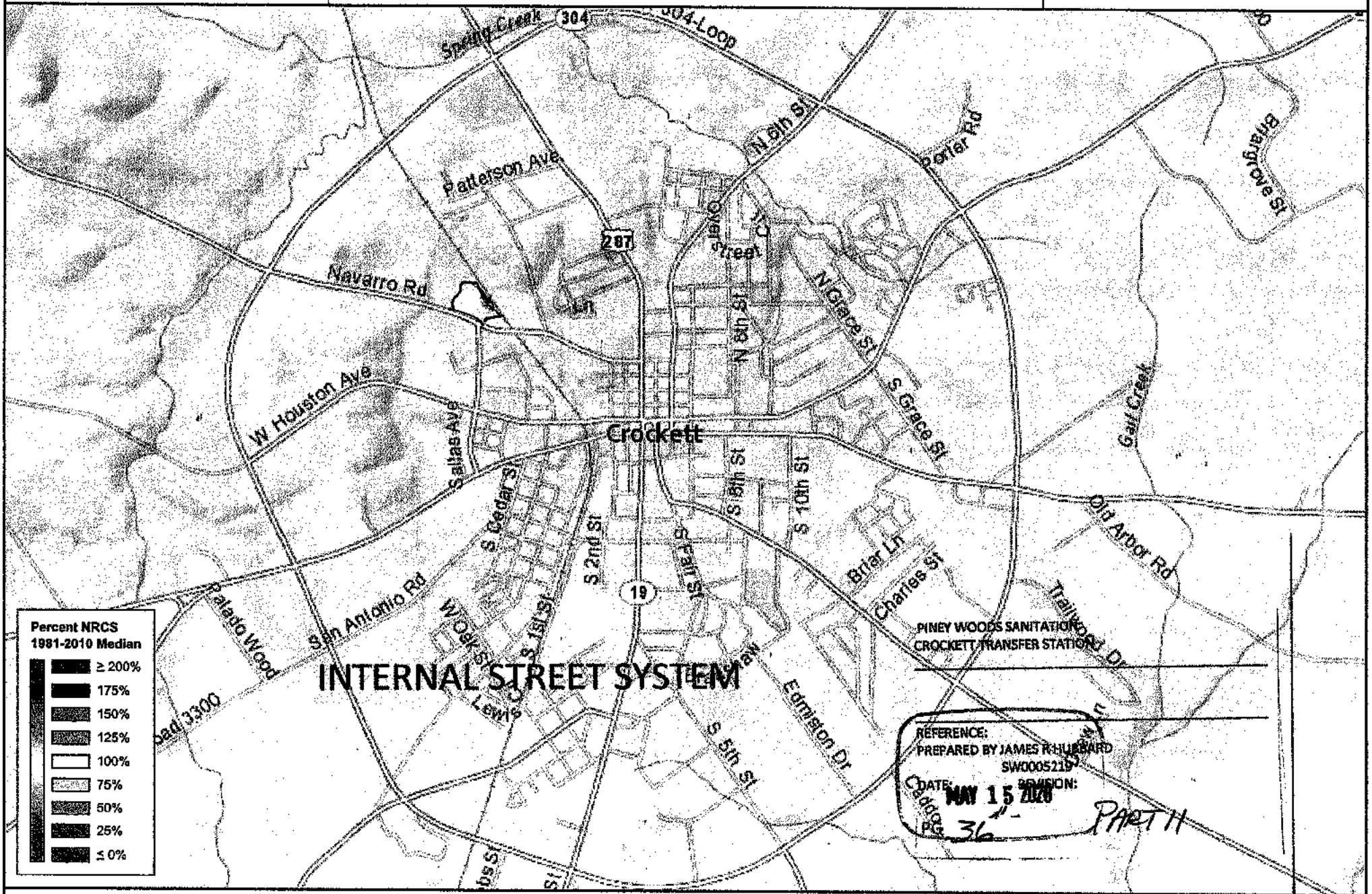
REFERENCE:
PREPARED BY JAMES R HUBBARD
SW0005219
DATE: MAY 15 2020
REVISION:
PG 34

PART II

HOUSTON COUNTY - Crockett



Snow Water Equivalent	Percent NRCS 1981-2010 Median	March 26, 2020, end of day



USDA Natural Resources Conservation Service
United States Department of Agriculture

N

0 500 1,000 2,000 3,000 4,000 5,000 Feet

Created 3-27-2020

330.61

(j) General geology and soils statement.

(1) This soil survey and report comes from the USDA.

(2) (3) (4) for landfills only, not applicable for transfer station registration.

USDA United States Department of Agriculture

NRCS Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Houston County, Texas

March 31, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

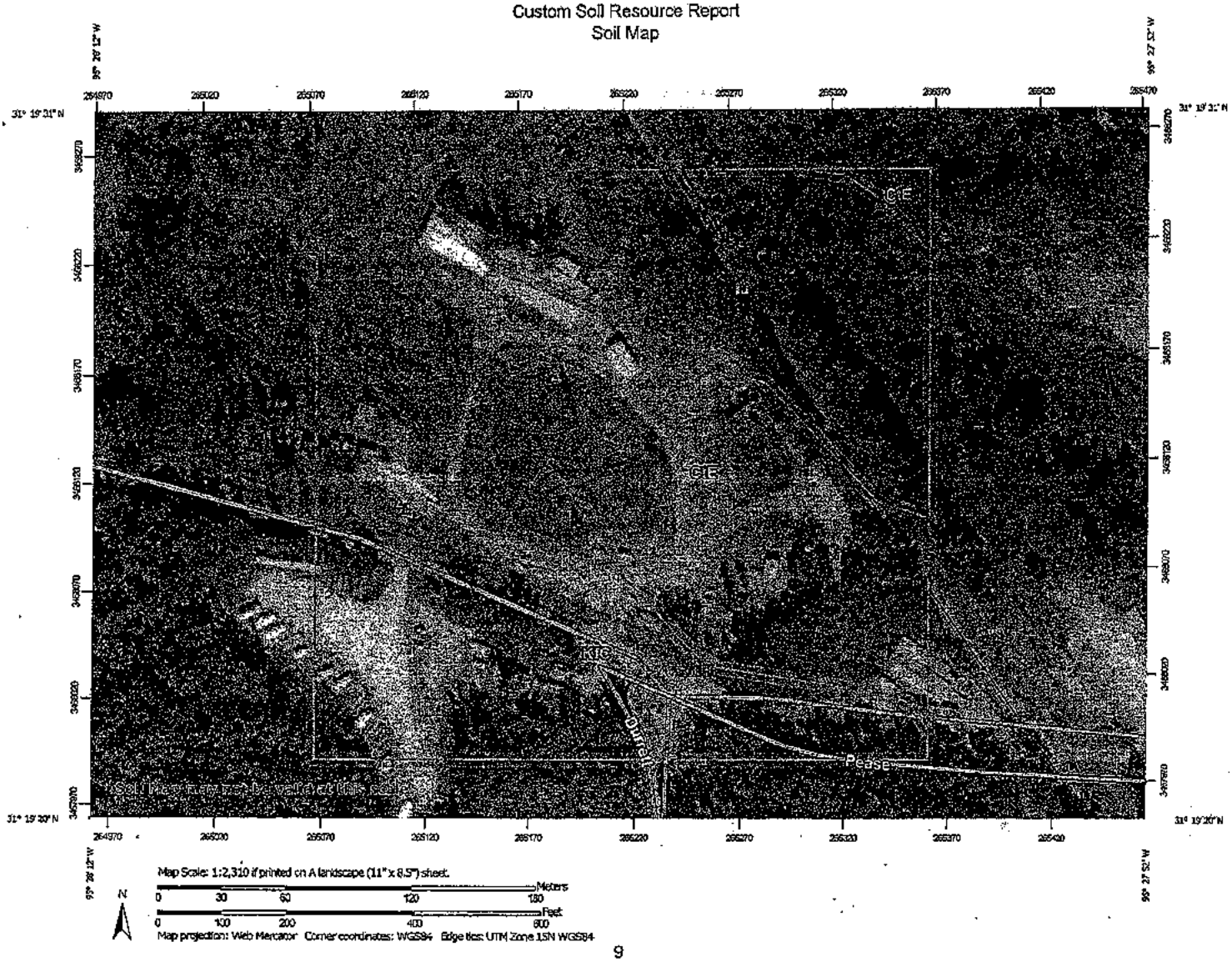
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


99° 28' 12" W
99° 27' 32" W
31° 19' 31" N
31° 19' 20" N
264970
265020
265070
265120
265170
265220
265270
265320
265370
265420
265470
3468270
3468220
3468170
3468120
3468070
3468020
3467970
CtE
KtC
Duncan
Pease
Soil Map may not be valid at this scale.
Map Scale: 1:2,310 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 30 60 120 180
Feet
0 100 200 400 600
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Houston County, Texas
Survey Area Data: Version 17, Sep 12, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 10, 2016—Oct 28, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CtE	Cuthbert fine sandy loam, 5 to 15 percent slopes	10.3	52.1%
Iu	Iulus fine sandy loam, 0 to 1 percent slopes, frequently flooded	4.9	24.6%
KfC	Kirvin fine sandy loam, 1 to 5 percent slopes	4.6	23.2%
Totals for Area of Interest		19.8	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Houston County, Texas

CtE—Cuthbert fine sandy loam, 5 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2tjm
Elevation: 150 to 750 feet
Mean annual precipitation: 41 to 55 inches
Mean annual air temperature: 63 to 66 degrees F
Frost-free period: 235 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition

Cuthbert and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cuthbert

Setting

Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey marine deposits

Typical profile

A - 0 to 6 inches: fine sandy loam
E - 6 to 10 inches: fine sandy loam
Bt - 10 to 37 inches: clay
C - 37 to 80 inches: clay

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: Loamy Over Clayey Upland (F133BY003TX)
Hydric soil rating: No

Minor Components

Darco
Percent of map unit: 5 percent
Ecological site: Northern Deep Sandy Upland (F133BY008TX)
Hydric soil rating: No

Tenaha
Percent of map unit: 5 percent
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Bowie
Percent of map unit: 5 percent
Ecological site: Loamy Upland (F133BY005TX)
Hydric soil rating: No

Iu—Iulus fine sandy loam, 0 to 1 percent slopes, frequently flooded

Map Unit Setting
National map unit symbol: 2tnj8
Elevation: 160 to 590 feet
Mean annual precipitation: 42 to 57 inches
Mean annual air temperature: 63 to 66 degrees F
Frost-free period: 201 to 237 days
Farmland classification: Not prime farmland

Map Unit Composition
Iulus and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Iulus

Setting
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loamy alluvium

Typical profile
A - 0 to 12 inches: fine sandy loam
Bw - 12 to 22 inches: fine sandy loam
Bg - 22 to 80 inches: fine sandy loam

Properties and qualities
Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained

Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 20 to 46 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.1 to 1.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: Creek Bottomland (F133BY014TX)
Hydric soil rating: No

Minor Components

Mattex

Percent of map unit: 10 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Loamy Bottomland (F133BY017TX)
Hydric soil rating: Yes

KfC—Kirvin fine sandy loam, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2tljs
Elevation: 130 to 640 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 63 to 66 degrees F
Frost-free period: 220 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Kirvin and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kirvin

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex

Across-slope shape: Linear
Parent material: Clayey fluviomarine deposits

Typical profile
A - 0 to 7 inches: fine sandy loam
E - 7 to 12 inches: fine sandy loam
Bt - 12 to 40 inches: clay
BCt - 40 to 51 inches: clay
CBt - 51 to 57 inches: sandy clay loam
C - 57 to 80 inches: sandy clay loam

Properties and qualities
Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups
Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: Loamy Over Clayey Upland (F133BY003TX)
Hydric soil rating: No

Minor Components

Wolfpen
Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Bowie
Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Loamy Upland (F133BY005TX)
Hydric soil rating: No

Darco
Percent of map unit: 5 percent
Landform: Interfluves

Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Northern Deep Sandy Upland (F133BY008TX)
Hydric soil rating: No

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Physical Properties

This folder contains a collection of tabular reports that present soil physical properties. The reports (tables) include all selected map units and components for each map unit. Soil physical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Physical Soil Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is

given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause

damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (http://soils.usda.gov)

Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Physical Soil Properties--Houston County, Texas														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
CtE—Cuthbert fine sandy loam, 5 to 15 percent slopes														
Cuthbert	0-6	54-65-71	20-27-32	2-9-15	1.51-1.52-1.53	14.00-28.00-42.00	0.10-0.12-0.14	0.1-0.4-0.9	0.5-1.3-2.0	.37	.37	3	3	86
	6-10	54-65-71	19-27-32	2-9-15	1.59-1.64-1.70	14.00-28.00-42.00	0.09-0.11-0.13	0.1-0.4-0.9	0.3-0.8-1.3	.37	.37			
	10-37	25-38-55	10-15-28	25-48-60	1.30-1.46-1.61	1.40-2.70-4.00	0.11-0.13-0.15	1.0-3.3-6.2	0.1-0.6-1.0	.17	.17			
	37-80	30-38-70	10-17-28	20-45-60	1.52-1.62-1.73	0.42-2.20-4.00	0.11-0.12-0.14	0.7-3.1-6.2	0.1-0.3-0.5	.20	.20			
lu—lulus fine sandy loam, 0 to 1 percent slopes, frequently flooded														
lulus	0-12	52-68-80	5-21-40	6-11-15	1.30-1.38-1.45	14.00-28.00-42.00	0.10-0.13-0.15	0.0-1.5-2.9	0.5-1.3-2.0	.24	.24	5	3	86
	12-22	40-71-80	5-17-45	8-13-18	1.26-1.36-1.36	4.00-9.00-14.00	0.10-0.15-0.20	0.0-1.5-2.9	0.2-0.5-1.0	.28	.28			
	22-80	40-71-80	5-17-45	8-13-18	1.30-1.40-1.50	4.00-9.00-14.00	0.10-0.15-0.20	0.0-1.5-2.9	0.1-0.2-0.5	.28	.28			

Physical Soil Properties–Houston County, Texas														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
KfC—Kirvin fine sandy loam, 1 to 5 percent slopes														
Kirvin	0-7	55-65-75	18-20-28	4-15-19	1.47-1.48-1.50	14.00-28.00-42.00	0.11-0.13-0.15	0.2-0.9-1.2	1.0-2.0-3.0	.24	.24	4	3	86
	7-12	55-65-75	18-20-28	4-15-19	1.52-1.58-1.63	14.00-28.00-42.00	0.11-0.13-0.15	0.2-0.9-1.2	0.5-1.0-2.0	.24	.24			
	12-40	20-24-50	10-29-35	35-48-59	1.29-1.45-1.61	0.42-0.91-1.40	0.13-0.15-0.16	2.0-3.6-6.0	0.1-0.6-1.0	.20	.20			
	40-51	20-24-50	10-29-40	28-48-59	1.29-1.42-1.55	0.42-0.91-1.40	0.13-0.15-0.16	1.3-3.6-6.0	0.1-0.6-1.0	.20	.20			
	51-57	40-55-65	10-17-28	20-28-35	1.47-1.56-1.64	4.00-9.00-14.00	0.14-0.16-0.18	0.7-1.3-2.4	0.1-0.3-0.5	.20	.20			
	57-80	30-51-65	10-18-28	20-32-45	1.65-1.69-1.73	4.00-9.00-14.00	0.10-0.11-0.14	0.8-1.9-3.9	0.0-0.3-0.5	.20	.20			

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

330.61

(k) Groundwater

Not Applicable

330.61

(l) Abandon oil and water wells.

(!) There are no abandon water wells on this property

(2) There are no abandon oil wells on this property

(m) Floodplains and wetland statement

(1) This track of land is not in the floodplain. See map (Pg 64)

(2) In 1990, I, James R. Hubbard (SW0005219) was project manager for the 2nd largest wetland mitigation project in the county since the implementation of the wetland law. The company was Waste Management of North America. The site was the Outer Loop Landfill and Recycling Facility located in Louisville, Kentucky. We impacted 175 acres of bottom land hardwoods. The mitigation required 100 acres on site and 390 acres of prior converted farmland mitigation. The project was 4 years and $10,000,000 to complete. Because of this experience and education, I am qualified to make a determination of wetlands. This site does not qualify as a jurisdictional wetland.

(3) This track of land does not qualify as a jurisdictional wetland.

(n) Endangered or threatened species.

(1) This registration project is being constructed on a small area of this City owned property. My wetland experience educated me about the nature of impacting endangered or threatened species. The area that the transfer station structure is being built is a flat area with no structures, trees, plants or other zones that might serve as a habitat for endangered or threatened species. The internal roads for this facility will be on the old roads that have been in existence for many years. Nothing exists on these roads that would serve as habitat for endangered or threatened species.

(2) For landfill application, does not apply to this project.

330.61

(j) General geology and soils statement.

(1) This soil survey and report comes from the USDA.

(2) (3) (4) for landfills only, not applicable for transfer station registration.

USDA United States Department of Agriculture

NRCS Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Houston County, Texas

March 31, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

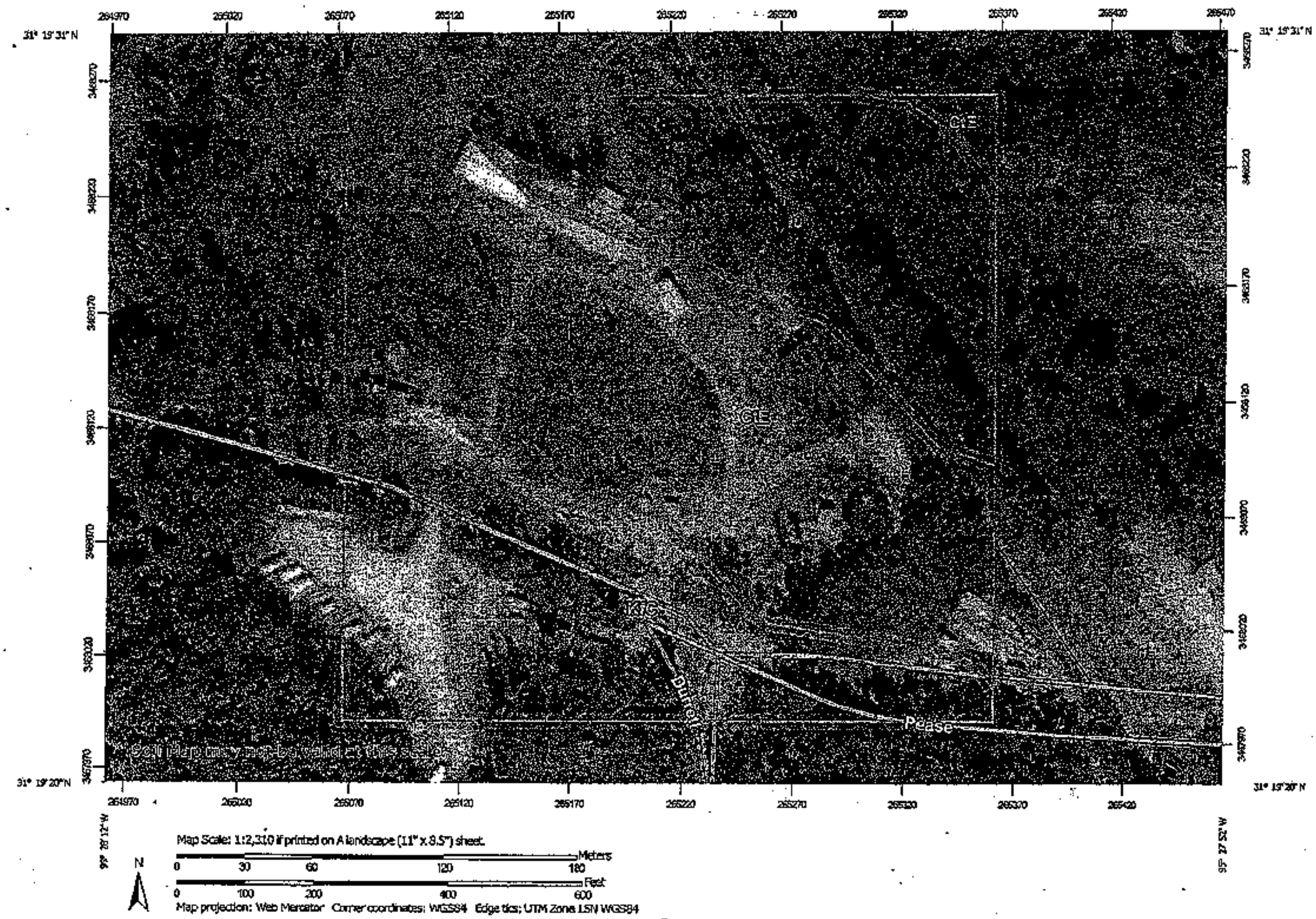
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Soil Map



Map Scale: 1:2,310 if printed on A landscape (11" x 8.5") sheet.

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Houston County, Texas
Survey Area Data: Version 17, Sep 12, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 10, 2016—Oct 28, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CtE	Cuthbert fine sandy loam, 5 to 15 percent slopes	10.3	52.1%
Iu	Iulus fine sandy loam, 0 to 1 percent slopes, frequently flooded	4.9	24.6%
KfC	Kirvin fine sandy loam, 1 to 5 percent slopes	4.6	23.2%
Totals for Area of Interest		19.8	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Houston County, Texas

CtE—Cuthbert fine sandy loam, 5 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2tljm
Elevation: 150 to 750 feet
Mean annual precipitation: 41 to 55 inches
Mean annual air temperature: 63 to 66 degrees F
Frost-free period: 235 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition

Cuthbert and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cuthbert

Setting

Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey marine deposits

Typical profile

A - 0 to 6 inches: fine sandy loam
E - 6 to 10 inches: fine sandy loam
Bt - 10 to 37 inches: clay
C - 37 to 80 inches: clay

Properties and qualities

Slope: 5 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C
Ecological site: Loamy Over Clayey Upland (F133BY003TX)
Hydric soil rating: No

Minor Components

Darco
Percent of map unit: 5 percent
Ecological site: Northern Deep Sandy Upland (F133BY008TX)
Hydric soil rating: No

Tenaha
Percent of map unit: 5 percent
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Bowie
Percent of map unit: 5 percent
Ecological site: Loamy Upland (F133BY005TX)
Hydric soil rating: No

Iu—Iulus fine sandy loam, 0 to 1 percent slopes, frequently flooded

Map Unit Setting
National map unit symbol: 2tnj8
Elevation: 160 to 590 feet
Mean annual precipitation: 42 to 57 inches
Mean annual air temperature: 63 to 66 degrees F
Frost-free period: 201 to 237 days
Farmland classification: Not prime farmland

Map Unit Composition
Iulus and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Iulus

Setting
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loamy alluvium

Typical profile
A - 0 to 12 inches: fine sandy loam
Bw - 12 to 22 inches: fine sandy loam
Bg - 22 to 80 inches: fine sandy loam

Properties and qualities
Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained

Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 20 to 46 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.1 to 1.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 5w
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Ecological site: Creek Bottomland (F133BY014TX)
Hydric soil rating: No

Minor Components

Mattex

Percent of map unit: 10 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: Loamy Bottomland (F133BY017TX)
Hydric soil rating: Yes

KfC—Kirvin fine sandy loam, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2tjs
Elevation: 130 to 640 feet
Mean annual precipitation: 40 to 55 inches
Mean annual air temperature: 63 to 66 degrees F
Frost-free period: 220 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Kirvin and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kirvin

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex

Across-slope shape: Linear
Parent material: Clayey fluviomarine deposits

Typical profile

A - 0 to 7 inches: fine sandy loam
E - 7 to 12 inches: fine sandy loam
Bt - 12 to 40 inches: clay
BCt - 40 to 51 inches: clay
CBt - 51 to 57 inches: sandy clay loam
C - 57 to 80 inches: sandy clay loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: Loamy Over Clayey Upland (F133BY003TX)
Hydric soil rating: No

Minor Components

Wolfpen

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Bowie

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Loamy Upland (F133BY005TX)
Hydric soil rating: No

Darco

Percent of map unit: 5 percent
Landform: Interfluves

Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Northern Deep Sandy Upland (F133BY008TX)
Hydric soil rating: No

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Physical Properties

This folder contains a collection of tabular reports that present soil physical properties. The reports (tables) include all selected map units and components for each map unit. Soil physical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Physical Soil Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is

given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause

damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (http://soils.usda.gov)

Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Physical Soil Properties–Houston County, Texas

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
CtE—Cuthbert fine sandy loam, 5 to 15 percent slopes														
Cuthbert	0-6	54-65-71	20-27-32	2-9-15	1.51-1.52-1.53	14.00-28.00-42.00	0.10-0.12-0.14	0.1-0.4-0.9	0.5-1.3-2.0	.37	.37	3	3	86
	6-10	54-65-71	19-27-32	2-9-15	1.59-1.64-1.70	14.00-28.00-42.00	0.09-0.11-0.13	0.1-0.4-0.9	0.3-0.8-1.3	.37	.37			
	10-37	25-38-55	10-15-28	25-48-60	1.30-1.46-1.61	1.40-2.70-4.00	0.11-0.13-0.15	1.0-3.3-6.2	0.1-0.6-1.0	.17	.17			
	37-80	30-38-70	10-17-28	20-45-60	1.52-1.62-1.73	0.42-2.20-4.00	0.11-0.12-0.14	0.7-3.1-6.2	0.1-0.3-0.5	.20	.20			
Iu—Iulus fine sandy loam, 0 to 1 percent slopes, frequently flooded														
Iulus	0-12	52-68-80	5-21-40	6-11-15	1.30-1.38-1.45	14.00-28.00-42.00	0.10-0.13-0.15	0.0-1.5-2.9	0.5-1.3-2.0	.24	.24	5	3	86
	12-22	40-71-80	5-17-45	8-13-18	1.26-1.36-1.36	4.00-9.00-14.00	0.10-0.15-0.20	0.0-1.5-2.9	0.2-0.5-1.0	.28	.28			
	22-80	40-71-80	5-17-45	8-13-18	1.30-1.40-1.50	4.00-9.00-14.00	0.10-0.15-0.20	0.0-1.5-2.9	0.1-0.2-0.5	.28	.28			

Physical Soil Properties–Houston County, Texas

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*in/in*	*Pct*	*Pct*					
KfC—Kirvin fine sandy loam, 1 to 5 percent slopes														
Kirvin	0-7	55-65-75	18-20-28	4-15-19	1.47-1.48-1.50	14.00-28.00-42.00	0.11-0.13-0.15	0.2-0.9-1.2	1.0-2.0-3.0	.24	.24	4	3	86
	7-12	55-65-75	18-20-28	4-15-19	1.52-1.58-1.63	14.00-28.00-42.00	0.11-0.13-0.15	0.2-0.9-1.2	0.5-1.0-2.0	.24	.24			
	12-40	20-24-50	10-29-35	35-48-59	1.29-1.45-1.61	0.42-0.91-1.40	0.13-0.15-0.16	2.0-3.6-6.0	0.1-0.6-1.0	.20	.20			
	40-51	20-24-50	10-29-40	28-48-59	1.29-1.42-1.55	0.42-0.91-1.40	0.13-0.15-0.16	1.3-3.6-6.0	0.1-0.6-1.0	.20	.20			
	51-57	40-55-65	10-17-28	20-28-35	1.47-1.56-1.64	4.00-9.00-14.00	0.14-0.16-0.18	0.7-1.3-2.4	0.1-0.3-0.5	.20	.20			
	57-80	30-51-65	10-18-28	20-32-45	1.65-1.69-1.73	4.00-9.00-14.00	0.10-0.11-0.14	0.8-1.9-3.9	0.0-0.3-0.5	.20	.20			

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

330.61

(k) Groundwater

Not Applicable

330.61

(l) Abandon oil and water wells.

(!) There are no abandon water wells on this property

(2) There are no abandon oil wells on this property

(m) Floodplains and wetland statement

(1) This track of land is not in the floodplain. See map (Pg 64)

(2) In 1990, I, James R. Hubbard (SW0005219) was project manager for the 2nd largest wetland mitigation project in the county since the implementation of the wetland law. The company was Waste Management of North America. The site was the Outer Loop Landfill and Recycling Facility located in Louisville, Kentucky. We impacted 175 acres of bottom land hardwoods. The mitigation required 100 acres on site and 390 acres of prior converted farmland mitigation. The project was 4 years and $10,000,000 to complete. Because of this experience and education, I am qualified to make a determination of wetlands. This site does not qualify as a jurisdictional wetland.

(3) This track of land does not qualify as a jurisdictional wetland.

(n) Endangered or threatened species.

(1) This registration project is being constructed on a small area of this City owned property. My wetland experience educated me about the nature of impacting endangered or threatened species. The area that the transfer station structure is being built is a flat area with no structures, trees, plants or other zones that might serve as a habitat for endangered or threatened species. The internal roads for this facility will be on the old roads that have been in existence for many years. Nothing exists on these roads that would serve as habitat for endangered or threatened species.

(2) For landfill application, does not apply to this project.

National Flood Hazard Layer FIRMette

FEMA

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/1/2020 at 1:23:07 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

MAY 15 2020

PINEY WOODS SANITATION

PAGE 11

PG 64

330.61

(o) Texas Historical Commission

(p) DETCOG

15May2020

Texas Historical Society
P.O. Box 12276
Austin, Texas

RE: Piney Woods Sanitation Transfer Station application, 405 E Pease, Crockett, Texas

Dear Sirs:

TAC30, Subchapter 330.61 (o), of the Texas Solid Waste Rules requires applicants of solid waste facilities contact the Texas Historic Commission in reference to an application for construction and operation of a Type V transfer station. This site is located in Crockett, Texas. The purpose of this letter is to inform you of the proposed transfer station and request your response indicating that transfer station as proposed will not conflict with the established historical sites or known cultural resource sites.

Piney Woods Sanitation has been awarded the Crockett garbage contract. This contract stipulates the successful contractor will register a transfer facility in the City of Crockett. This facility will receive MSW (municipal solid waste) from Houston County, City of Crockett and surrounding areas. The City of Crockett and Houston County fully support this facility.

The location of this site is on a tract of land owned by the City. This site is the area where the City operated a transfer station for many years before deciding to close this site and contract for the waste removal service. The Cities prior registration had to address this exact subject and found no conflicts at that time. There have been no changes to the property since.

The only place for the public to dump was closed over a year ago. Since then the City and County have been burdened with the problem of illegal dumping. This facility will alleviate most of this problem by allowing public use. This site is the same location the City used for many years as its transfer facility and has not been improved. It has been continuously used 5 years by the City for various city maintenance tasks since it closed. There are no historical sites or cultural resources on this property.

If you have any questions, please contact me. Thank you and I remain,

Sincerely yours,

Sonny Hubbard
Piney Woods Sanitation
51 Hwy 69 N.
P.O. Box 1417
Huntington, Texas 75949
936.876.5640 office
936.239.4970 cell
shubbard@pineywoodssanitation.com

Piney Woods Sanitation
P.O. Box 1417
Huntington, Texas 75949

5May2020

Robert Bashaw
Regional Planner, Regional Services
DETCOG
1405 Kurth Drive
Lufkin, Texas 75901

RE: Piney Woods Sanitation Transfer Station, Crockett, Texas

Dear Robert:

TAC30, Subchapter 330, 330.61 (p) of the Texas Solid Waste Rules requires applicants of solid waste facilities to submit certain documents to the applicable Council of Governments. Enclosed please find PART I, PART II, PART III, and PART IV of the application to register, construct and operate a Type V transfer station located in Crockett, Texas. This submission to DETCOG is required by the above noted rule,

Piney Woods Sanitation has received the Crockett solid waste contract and is registering a Type V transfer station in Crockett. DETCOG can integrate this facility into the Solid Waste Plan they have in place. This site is needed for the Houston County area. Although Piney Woods Sanitation has contracts for Houston County and Crockett to handle the residential, commercial, and industrial waste, we will open the facility to the public. There was a site open to citizens, but it closed over a year ago. The public has had no disposal facility available since the closure.

This facility will fall into a category for transfer facilities that will receive less than 125 tons per day. Other criteria for this type of facility are the population of the county must be under 85,000 and the city must be under 50,000. The site will take nothing but MSW. It will not take hazardous or special waste.

If you have any questions, please call me anytime,

Sincerely yours

Sonny Hubbard
Piney Woods Sanitation
517 Hwy 69 n
Huntington, Texas 77949
936.876.5640 office
936.239.4970 cell