

**DRAFT  
ENVIRONMENTAL ASSESSMENT**

**A SECTION 219 PROJECT  
ENVIRONMENTAL INFRASTRUCTURE;  
WATER AND SEWER SYSTEM AT  
BIG HILL ACRES, JACKSON COUNTY, MISSISSIPPI**

Mobile District  
Planning and Environmental Division  
Coastal Environment Team

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**US Army Corps  
of Engineers®**  
Mobile District

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**TABLE OF CONTENTS**

<b>1.0 INTRODUCTION</b> .....	4
1.1 Purpose and Need .....	4
1.2 Authority .....	5
<b>2.0 NATIONAL ENVIRONMENTAL POLICY ACT CONSIDERATION</b> .....	5
<b>3.0 DESCRIPTION OF THE PROPOSED PROJECT</b> .....	5
<b>4.0 ALTERNATIVES TO THE PROPOSED PROJECT</b> .....	6
4.1 No Action Alternative.....	6
4.2 New Water System Provided by Utility District.....	6
4.3 Install New Gravity Sewer System .....	7
4.4 Proposed Action – Construction of New Sewer and Water System.....	7
<b>5.0 AFFECTED ENVIRONMENT</b> .....	7
5.1 Physiography.....	7
5.2 Soils.....	7
5.3 Biological Resources .....	7
5.3.1 Coastal Flora .....	8
5.3.2 Coastal Fauna.....	8
5.4 Cultural Resources .....	9
5.5 Aesthetics.....	9
5.6 Noise .....	9
5.7 Air Quality .....	9
5.8 Threatened and Endangered Species .....	9
<b>6.0 EFFECTED ENVIRONMENTAL</b> .....	10
6.1 General.....	10
6.1.1 No Action.....	10
6.2 Soils.....	10
6.2.1 No Action.....	11
6.3 Biological Resources .....	11
6.3.1 No Action.....	11
6.4 Cultural Resources .....	11
6.4.1. No Action.....	12
6.5 Aesthetics.....	12
6.5.1 No Action.....	12

6.6 Noise .....	12
6.6.1 No Action.....	12
6.8 Air Quality .....	12
6.8.1 No Action.....	12
6.9 Threatened and Endangered Species .....	12
6.9.1 No Action.....	13
<b>7.0 COASTAL ZONE CONSISTENCY.....</b>	<b>13</b>
<b>8.0 WATER QUALITY CERTIFICATION .....</b>	<b>13</b>
<b>9.0 PROTECTION OF CHILDREN.....</b>	<b>13</b>
<b>10.0 ENVIRONMENTAL JUSTICE .....</b>	<b>13</b>
<b>11.0 CUMULATIVE EFFECTS SUMMARY .....</b>	<b>14</b>
<b>12.0 CONCLUSION .....</b>	<b>14</b>
<b>13.0 LIST OF PREPARERS.....</b>	<b>14</b>
<b>14.0 LIST OF AGENCIES, INTERESTED GROUPS &amp; PUBLIC CONSULTED .....</b>	<b>14</b>
<b>15.0 REFERENCES.....</b>	<b>15</b>

List of Figures

- Figure 1 – Project Map
- Figure 2 – Water System Layout
- Figure 3 – Sewer System Layout
- Figure 4 – Utility Parcels
- Figure 5 – Water Well and Elevated Tank
- Figure 6 – Sugargate Lift Station
- Figure 7 – Foxrun Lift Station
- Figure 8 – Southern Pine/Lavada Lift Station
- Figure 9 – Ridgeland Lift Station
- Figure 10 – Roanoke/Sugargate Easement

Figure 11 – Ridgeland/Overlook Easement

Figure 12 – Lavada Road Easement

Figure 13 – Kingswood Drive Easement

List of Tables

Table 1 – Federally Listed Endangered and Threatened Species in Jackson County, Mississippi (USFWS 2010)

List of Enclosures

Enclosure 1 - Public Notice Number FP12-JC01-02

Enclosure 2 - Mississippi Department of Environmental Quality Corps Correspondence

Enclosure 3 - Mississippi Department of Marine Resources Corps Correspondence

Enclosure 4 – U.S. Fish and Wildlife Service Corps Correspondence

Enclosure 5 – National Marine Fisheries Service Corps Correspondence

# **DRAFT**

## **ENVIRONMENTAL ASSESSMENT**

### **A SECTION 219 PROJECT ENVIRONMENTAL INFRASTRUCTURE; WATER AND SEWER SYSTEM AT BIG HILL ACRES, JACKSON COUNTY, MISSISSIPPI**

#### **1.0 INTRODUCTION**

The project will provide a community water distribution and a sewage collection system for Big Hill Acres Subdivision in Jackson County, Mississippi. The project area is located in West Jackson County, near Vancleave, approximately 9 miles north of Interstate 10. The project boundaries are generally Roanoke Road to the west, Joe Batt/Jim Ramsey Road to the north, Old Fort Bayou Road to the east, and Seaman Road to the south. Big Hill Acres Subdivision falls outside the boundaries of any neighboring incorporated cities. The project consists of 855 platted lots spread across approximately 2,400 acres, of which a large portion contains wetlands. The residences and driveways are constructed on previously filled wetlands. Big Hill Acres Subdivision was constructed by private developers during the 1990's through 2004, and most of the residences in the subdivision are served by individual residential water wells and underground septic tanks. The map in Figure 1 depicts the project area.

The U.S. Army Corps of Engineers (Corps), Mobile District will construct the project as described below; however, the local sponsor, Jackson County Utility Authority (JCUA), will construct the main lift station for centralized collection and associated sewer mains for transmission to the existing wastewater treatment facility located nearby. JCUA will also install service laterals from the edge of the public right-of-way over private property to each individual homestead.

**1.1 Purpose and Need.** The water wells are fairly shallow and are not up to the standards set forth by Mississippi State Department of Health (MSDH) for public water supply wells (pers. comm. Tommy Fairfield JCUA). Many of the well heads become submerged during frequent floods. There are concerns that some private wells have been contaminated by failing septic systems. Most of the residents of Big Hill Acres currently reside without a reliable, safe water supply and without water for fire protection. Also, the residents rely on failing septic tank systems, which continue to contaminate their properties and the area's environmental resources.

During development of project plans, and based on the site history, further analysis revealed any improvements to the existing subdivision's water and sewage systems could have direct impacts to wetlands located within the project limits. However, the proposed project improvements would provide additional benefits by removal of failing septic systems as they are converted to a collection sewage system and transported to an existing wastewater treatment facility; additional project improvements would provide for safe drinking water by the installation of a community water system thereby eliminating the need for relying on unsafe water wells at individual sites.

The majority of the project will be constructed within the public rights-of-way. An additional 10-foot easement may be required along each side of the roadway and is being obtained by the

local sponsor. Easements for three additional water and/or sewer line routes are not on platted lots, away from existing roadways and are also being obtained by the local sponsor. The Corps, Mobile District, Real Estate Division is working with the local sponsor to obtain all necessary easements. The locations of the new water well, elevated tank, and proposed lift stations will be on existing platted lots within the subdivision. The sites and three new water/sewer line routes contain wetlands and are shown on the enclosed drawings.

This Environmental Assessment (EA) presents the impacts that could potentially result from construction of the new community water distribution and sewage collection systems for Big Hill Acres Subdivision. Existing conditions within the subdivision may pose a potential threat to public health and safety. The purpose of this EA is to determine whether or not the proposed action has the potential for creating significant impacts to the human environment and would thereby warrant a more detailed study on possible impacts, mitigation, and alternative courses of action.

**1.2 Authority.** Section 219 of the Water Resources Development Act (WRDA) of 1992, as amended, *Environmental Infrastructure Program*, authorizes the Corps to provide assistance to non-Federal interests for carrying out water-related environmental infrastructure and resource protection and development projects described in subsection (c), including wastewater treatment and related facilities and water supply, storage, treatment, and distribution facilities. Such assistance may be in the form of technical, planning, design, and construction assistance. The authorizing language is as follows: “The project was authorized for design and construction assistance by Section 219 of the WRDA of 1992 (Public Law 102-580) as amended by Section 504 of WRDA 96 (Public Law 104-303), Sections 331 of WRDA 99 (Public Law 106-53), and Section 1(a) WRDA 99 corrections (Public Law 106-109), Section 3103 and 5158 WRDA 2007 (PUBLIC LAW 110-114—NOV. 8, 2007).”

## **2.0 NATIONAL ENVIRONMENTAL POLICY ACT CONSIDERATION**

This EA, written by the U.S. Army Corps of Engineers (Corps), Mobile District has been prepared to address the potential impacts associated with construction of the community water distribution and sewage collection systems for Big Hill Acres Subdivision. The National Environmental Policy Act (NEPA) and Title 40 of the Code of Federal Regulations (CFR), CFR Parts 1500-1508 (40 CFR 1500-1508) require Federal agencies to consider the potential environmental consequences of proposed actions and alternatives. Based on the EA, the Corps either prepares an Environmental Impact Statement (EIS), if one appears warranted, or issues a "Finding of No Significant Impact" (FONSI), which satisfies the NEPA requirement. This EA is prepared according to the Engineer Regulation (ER) 200-2, Procedures for Implementing NEPA, and the Council of Environmental Quality (CEQ) Regulations (40 CFR § 1508.27) for Implementing the Procedural Provisions of NEPA (40 CFR § 1500-1508). Executive Order (EO) 11514, Protection and Enhancement of Environmental Quality (amended by EO 11991), provides policy directing the federal government to take leadership in protecting and enhancing the environment.

## **3.0 DESCRIPTION OF THE PROPOSED ACTION**

The proposed water distribution project will include the installation of multiple 6-inch, 8-inch, and 10-inch diameter water mains. A 1,000 gallons per minute (GPM) water well and 250,000 gallon elevated tank will also be constructed. The proposed water system layout is shown in

Figure 2. The proposed sewage collection system will include the installation of low-pressure PVC sewer mains ranging in size from 2 inches to 6 inches and lift station PVC force mains ranging in size from 4 inches to 12 inches. Five new lift stations will be installed throughout the project. The proposed sewage collection system layout is shown in Figure 3. Project assumptions include all 855 platted lots will be occupied within a short period of time. Also, the capacity provides for servicing parcels of land or lots that may fall outside of the boundaries of Big Hill Acres Subdivision but for which it would be feasible to provide immediate water service. Therefore, the project hydraulic models for the project planning area are based on a total of 1,200 connections.

The majority of the project will be constructed within the public rights-of-way. An additional 10-foot easement may be required along each side of the roadway and is being obtained by the local sponsor in conjunction with the Corps, Mobile District's Real Estate Division. The locations of the new water well, elevated tank, and proposed lift stations will be on existing platted lots within the subdivision. The sites contain wetlands and are shown on the enclosed drawings. Avoidance and minimization of impacts to wetlands will result in most of the platted lots to remain undisturbed and in a natural state; however, direct filling of approximately 0.20 acre of wetlands is unavoidable as a result of constructing the required lift stations and water tank. The benefits of the project far outweigh the unavoidable wetland impacts by replacement of the failing septic systems and the resultant improved water quality throughout the project area.

#### **4.0. ALTERNATIVES TO THE PROPOSED PROJECT**

**4.1 No Action.** The No Action alternative involves the continuation of existing conditions and no new solutions for existing problems within the established residential subdivision. This alternative avoids both the monetary investment and potential adverse impacts associated with improvements. Without corrective action, it is anticipated that greater negative environmental impacts will occur, such as continued failure of existing individual septic tanks, further contamination of sensitive wetlands, and the potential for contaminated existing water wells. The No Action alternative would not construct a new water supply system or correct the failing septic systems in the subdivision. The No-Action alternative was not considered a viable alternative for the proposed action; therefore, it was not selected as the preferred alternative.

**4.2 Provide a new distribution system using water supplied by West Jackson County Utility District (WJCUD).** Using the existing WJCUD water system to supply the project area was considered. However, this would require a six-mile-long water main with a minimum diameter of sixteen inches to reach the closest point of connection (an elevated tank on Tucker Road). The MSDH reports that the existing WJCUD supply is adequate to serve the additional connections in Big Hill Acres Subdivision. The estimated opinion of probable cost of this water main and connection is approximately \$1.6 million. This cost is in addition to the new water distribution lines, elevated tank and system upgrades that are required to serve the residents of Big Hill Acres Subdivision with proper chlorine residuals, adequate pressures, and provide fire protection to the residents. Additionally, expansion of this existing utility district would require further research into required amendments to existing local and private legislation and into annexation procedures. This alternative was eliminated from further consideration because WJCUD cannot legally serve the area and also, presently, they do not have excess capacity and are purchasing water from JCUA (pers. Comm. Tommy Fairfield JCUA).

**4.3 Install New Gravity Sewer System.** Installing gravity sewer mains to serve the project area was considered. However, this would cause significant inconvenience to the residents, as well as damage to the environment, in the form of deep excavations and major construction along each roadway in the subdivision. Also, the homes are on large lots and are set back quite far from the roads. In such conditions, gravity house connections and force mains would become prohibitively deep and construction costs would be exorbitant. This alternative was eliminated from further consideration as it is not feasible due to the overall topography in the area, the large lot sizes with houses set back, and the excessive costs associated with construction.

**4.4 Proposed Action – Construction of new water and sewer system.** The recommended alternative is to construct a new water distribution and sewage collection system in Big Hill Acres Subdivision by installing a new elevated water tank, associated water distribution mains, lift stations and sewer mains. The new water distribution system will be a safe, reliable, adequate water system. Fire hydrants will be installed and the water mains will be large enough to provide some measure of fire protection. Sewage collection will be a low-pressure system with a grinder pump at each house. Due to the small pipe sizes and shallow installation depths, both construction costs and inconvenience to residents will be reduced. A detailed description of this proposed action is located in Section 3.0 of this EA.

## **5.0. AFFECTED ENVIRONMENT**

**5.1 Physiography.** This area is located within the Coastal Meadows or Flatwoods topographical division of the Gulf Coast Region. The Coastal Meadows is generally flat or gently rolling with elevations averaging from 5 to 30 feet NGVD29. The coastal area of Mississippi is underlain by a series of unconsolidated estuarine and deltaic sediments ranging in age from Miocene to recent. These sediments are not easily separated into rock type layers. The significant geologic units present include the Pleistocene and Holocene coastal and terrace deposits and alluvium, which are underlain in turn by the Citronelle Formation (Pliocene), Graham Ferry Formation (Pliocene), Pascagoula Formation (Miocene), Hattiesburg Formation (Miocene), and the Catahoula Sandstone (Miocene).

The project consists of 855 platted lots spread across approximately 2,400 acres, of which a large portion contains palustrine wetlands. The residences and driveways are constructed on previously filled wetlands. The wetlands consist primarily of pine flatwoods and savannahs within. The site contains some uplands and wetlands, primarily pine flatwoods with some very dense understory of shrub canopy and some savannahs displaying open areas of herbaceous cover including pitcher plants and ferns. The topography of the site is gently sloping to moderate sloping and contains numerous intermittent and ephemeral forested drains. The project site has been previously impacted by the construction of residential development, drives, and yards.

**5.2 Soils.** Jackson County is in the extreme southern part of Mississippi. The Natural Resources Conservation Service indicates the following hydric soils exist within the project area: Atmore and Smithton; and the following hydric-inclusive soils exist within the project area: Poarch, Harleston, and Nahunta series soils.

**5.3 Biological Resources.** Coastal Mississippi consists of several habitats including beaches, sand dunes, coastal maritime forests, emergent wetlands, submerged aquatic vegetation, rivers,

tidal creeks, tidal flats, scrub/shrub wetlands, forested wetlands, and open-water benthic habitats. These areas are home to an immensely diverse, resilient, and environmentally significant group of species, including some threatened and endangered fauna. Ecological habitats within the project site include some natural uplands dominated by wet pinelands.

**5.3.1 Coastal Flora.** Coastal flora include grasses serving as groundcover with pine-oak forests, pine flatwoods and savannahs in the nearby surrounding area. The vegetative communities in Coastal Mississippi are diverse; however, existing land use patterns have resulted in a great deal of modification of the natural plant associations. Terrestrial uplands dominate higher ground areas that are not normally subject to riverine flooding or tidal inundation. Natural upland vegetation complexes found in the area include longleaf pine oaks, moist pinelands, bay forests, monoculture pine, maritime strand, and beach dune associations. The most dominant upland association, longleaf pine oaks, is well-adapted to the dry, sandy sites in the coastal plain region. This association is usually found above the 10-foot contour but sometimes integrates into the moist pinelands along streams and rivers. Other dominant species occurring in the community include: southern red oak (*Quercus falcata*), laurel oak (*Q. laurifolia*), live oak (*Q. virginiana*), southern magnolia (*Magnolia grandiflora*), flowering dogwood (*Cornus florida*), persimmon (*Diospyros virginiana*), winged sumac (*Rhus copallina*), sparkleberry (*Vaccinium arboreum*), and broomsedge (*Andropogon* spp.).

Forest coverage opens up when entering sandy areas near the coast. Vegetation consists largely of slash pine (*Pinus elliottii*) with an understory of saw palmetto (*Serenoa repens*) and wax myrtle (*Myrica cerifera*). This area, known as moist pinelands, differs from longleaf pine-oaks due to its higher water table. A thin strip of moist pinelands usually divides the floodplain swamps and longleaf pine-oak forests. Sedges, grasses, and other herbaceous plants grow in the understory area. Pitcher plant bogs are very noticeable with thousands of plants occupying a relatively small area. Depression in the land combined with the high water table produce standing water, which supports dense growths of freshwater, floating and submerged, aquatic plants.

**5.3.2. Coastal Fauna.** Coastal fauna include an array of reptiles, amphibians, birds, and mammals. Mammals found within the area include marsupials, moles and shrews, bats, armadillos, rabbits, rodents, carnivores, even-toed hoofed mammals. Mammals occur within all habitats of the system, using underground burrows, the soil surface, vegetative strata, the air, and the water for feeding, resting, breeding, and bearing and rearing young. Mammals, such as the marsh rabbit, cotton rat, swamp rabbit, river otter, and raccoon, are prevalent in the area.

Reptiles and amphibians found in the area include snakes, turtles, lizards, toads, frogs, salamanders, and crocodilians. Coastal Mississippi has a great diversity of reptiles including 23 species of turtles, 10 species of lizards, 39 species of snakes, and the alligator. Eighteen species of salamanders and 22 species of frogs and toads are indigenous to the coastal region.

Over 300 species of birds have been reported as migratory or permanent residents within the area, several of which breed there as well. Shorebirds include osprey, great blue heron, great egret, piping plover, sandpiper, gulls, brown and white pelicans, American oystercatcher, and

terns. Birds of the area eat a great variety of foods, are also food to many predators, and exhibit a diversity of nesting behaviors.

**5.4 Cultural Resources.** In accordance with Section 106 of the National Historic Preservation Act of 1966 (as amended) and its implementing regulations at 36 CFR 800, the Corps must consider the potential effects of this project on *historic properties* (cultural resource sites potentially eligible for or listed on the National Register of Historic Places). In addition, the Corps must afford the State Historic Preservation Officer (SHPO) and interested parties including but not limited to Native American Tribes (Tribes), the opportunity to comment on its determination of effects to *historic properties*.

**5.5 Aesthetics.** The project area including the developed residential areas is aesthetically pleasing. Many of the remaining natural communities are wooded and will remain in their natural state.

**5.6 Noise.** The predominant ambient sounds in the vicinity of the project are those expected with developed areas, including those associated with recreational use, residential development and associated local traffic (automobiles, motorcycles, all terrain vehicles, and planes).

**5.7 Air Quality.** Jackson County is in attainment with the National Ambient Air Quality Standards (NAAQS) of the Clean Air Act.

**5.8 Threatened and/or Endangered Species.** Table 2 provides a list of endangered and threatened species identified by the U.S. Fish and Wildlife Service (USFWS) in Jackson County, Mississippi.

**Table 2**

<b>Federally Listed Endangered and Threatened Species in Jackson County, Mississippi (USFWS 2010)</b>
E – Red-cockaded woodpecker ( <i>Picoides borealis</i> )
E – Alabama Red Bellied Turtle ( <i>Pseudemys alabamensis</i> )
TCH – Piping plover ( <i>Charadrius melodus</i> )
E – West Indian Manatee ( <i>Trichechus manatus</i> )
ECH – Mississippi sandhill crane ( <i>Grus canadensis pulla</i> )
T – Gopher tortoise ( <i>Gopherus polyphemus</i> )
T – Louisiana black bear ( <i>Ursus a. luteolus</i> )
E – Mississippi gopher frog (proposal under review)
T – Loggerhead sea turtle ( <i>Caretta caretta</i> )
E – Kemp's ridley sea turtle ( <i>Lepidochelys kempii</i> )
T – Green sea turtle ( <i>Chelonia mydas</i> ) (P)
TCH – Gulf sturgeon ( <i>Acipenser oxyrinchus desotoi</i> )
E – Louisiana quillwort ( <i>Isoetes louisianensis</i> )
C – Black pine snake ( <i>Pituophis melanoleucus lodingi</i> )
T – Eastern indigo snake, ( <i>Drymarchon corais couperi</i> ) (P)
T – Yellow-blotched map turtle ( <i>Graptemys flavimaculata</i> )
C – Pearl darter ( <i>Percina aurora</i> ) (Pascagoula River System)

Note: Bald Eagle Protected by the Bald and Golden Eagle Act

Key to codes on list:

E – Endangered

T – Threatened

C – Candidate Species

TCH – Threatened with Critical Habitat

The project area provides habitat for a number of federally protected species; however, no site-specific information on endangered, threatened, or proposed species, or their critical habitat occurs within the project limits. Species of concern that could be found in the project vicinity are the Mississippi Sandhill Crane (federally and state endangered), the Mississippi Gopher Frog (federally endangered), the Gopher Tortoise (federally threatened and state endangered), Louisiana Quillwort (federally endangered), the Black Pine Snake, the White Ibis, Drummond's Yellow-Eyed Grass, the Pitcher Plant, the Floating Heart, and Loose Watermilfoil.

## **6.0 ENVIRONMENTAL IMPACTS**

**6.1 General.** The impacts resulting from construction of the lift stations, water well, elevated water tank, and installation of the sewer and water mains, would be short-term and localized; however, the direct fill of approximately 0.20 acre of wetlands would result in a permanent loss. All reasonable efforts would be made to avoid, minimize, and restore the affected natural resources to the extent practicable by the use of best management practices (BMPs) and the re-contouring/re-vegetation of trenched areas after installation of sewer and water mains. It is anticipated implementation of this project would result in much needed improved water supply and sewage collection within the existing residential development and overall improve public health, safety, and the welfare. The removal of failing septic tank systems will prevent further contamination of the natural resources within the project area resulting in improved water quality.

**6.1.1 No Action.** The No Action alternative involves the continuation of existing conditions and no new solutions for existing problems within the established residential subdivision. This alternative avoids both the monetary investment and potential adverse impacts associated with improvements. Without corrective action, it is anticipated that greater negative environmental impacts will occur, such as continued failure of existing individual septic tanks, further contamination of sensitive wetlands, and the potential for contaminated existing water wells.

**6.2 Soils.** The proposed action would result in direct impacts to approximately 0.20 acre of hydric soils due to the construction of the lift stations, water well, and elevated water tank. Trenches for sewer and water mains would be backfilled with the existing soil in order to minimize impacts. It is anticipated that the minor soil disturbances due to construction activities would be temporary in nature and would be stabilized using BMPs upon disturbance. The project would result in an overall benefit to the surrounding soils by improvements to the existing failing septic systems by construction of a new community sewage system.

**6.2.1 No Action.** The No Action alternative would avoid the direct filling of hydric soils since the project would not be constructed; however, contamination in the area would continue due to the failing septic systems that exist in the project area. Conditions would worsen over time and the threat to public health and safety would remain.

**6.3 Biological Resources.** No long-term adverse impacts are anticipated. Because of the relatively small project footprint, there should be no basic change in overall characteristics. There may be temporary disruption of the fauna community caused by the construction activities but they should avoid the disturbed area and should return shortly after construction activity is completed. There would be a permanent loss of grasses due to construction and grading within the project area. Approximately 0.20 acre of undisturbed wetlands would be directly filled for construction of the lift stations and elevated water tank. All graded and scarred areas would be stabilized and the use of BMPs would help minimize disturbances. It is anticipated that affected areas would be small and would rapidly recover within a few months.

**6.3.1 No Action.** The No Action alternative would avoid disruptions to the resources caused by construction of the project; however, no benefits of the project would be recognized. It is anticipated that ongoing conditions, further contamination and the threat to public health and safety, would worsen over time if the project is not constructed.

**6.4 Cultural Resources.** The National Register of Historic Places has been consulted to determine if there are properties listed on, being nominated to, or that have been determined eligible for the National Register known to exist in the vicinity of the proposed work. As per requirements outlined in Section 106 of the National Historic Preservation Act, the Mobile District must consider the effects of the proposed action on historic properties.

The Mississippi Department of Archives and History (MDAH) have previously provided comment on this proposed activity to the United States Department of Agriculture Rural Utilities Services (MDAH Project Log #05-063-10). In a letter dated May 28, 2010 MDAH stated “after review, it is our determination, based on topography, that a cultural resources survey should be performed by a qualified cultural resources professional in any portions of the project area outside of existing right of ways.” The Corps will continue consultation with MDAH in determining if a Phase I cultural resources survey is necessary given current site conditions.

In order to assess the effects of the project, the Corps will conduct a records and literature search of the state wide survey and site files at the MDAH, as well as other data as available, in order to identify existing resources. The search will include all areas of potential effect (APE) including lift station sites, water well site, associated access roads, staging areas, and sewer/waterline routes. Previously identified *historic properties* will be avoided by the project. In addition, should areas of high archaeological potential be located within the project APE, intensive archaeological survey will be conducted. In areas of low potential, to include the existing roadways, physically altered landscapes, and wetlands, no intensive survey is proposed.

The results of the background research and any intensive survey will be coordinated with the SHPO, Tribes, and interested parties as appropriate. Should *historic properties* be identified, avoidance will be the preferred resolution of effect method. Based on the proposed studies and

*historic property* avoidance, the Corps has determined that the action should have no effect on historic properties in accordance with 36 CFR 800.4(d)(1). Therefore, the project is expected to have no significant impact to cultural resources.

Should unavoidable *historic properties* be found within the project APE, or previously undiscovered sites be located, or consultation with the SHPO or Tribe reveal unknown resources or Traditional Cultural Properties, further consultation and evaluation may become necessary. Should potential adverse effects be found, a Memorandum of Agreement may be necessary in order to resolve those effects to *historic properties*. In addition, the Advisory Council on Historic Preservation shall be notified and invited to participate as per 36 CFR 800.6(a)(1).

**6.4.1 No Action.** The No Action alternative would avoid any disruptions to cultural resources due to construction activities. The area would remain as is and no further investigations would be conducted. The extent of historical properties within the area would remain unknown.

**6.5 Aesthetics.** The proposed action would result in no changes to existing conditions as the proposed project footprint is relatively small. There would be no impacts to the surrounding areas and no basic change in overall characteristics.

**6.5.1 No Action.** The No Action alternative would avoid any temporary changes to the aesthetics within the project area.

**6.6 Noise.** Construction equipment and vehicles in the area would temporarily increase noise levels in the vicinity; however, once construction is complete, noise levels would return to current levels. No long-term adverse effects are anticipated.

**6.6.1 No Action.** The No Action alternative would avoid temporary increases in noise levels associated with construction activities. The continuation of noise levels associated with a residential development would continue.

**6.7 Air Quality.** The proposed project is expected to add exhaust emissions to the immediate area during construction, but this would not result in any permanent changes to the air quality of the area.

**6.7.1 No Action.** The No Action alternative would avoid any added exhaust emissions associated with construction activities. The existing conditions would be expected to remain unchanged as Jackson County is currently in attainment with the National Ambient Air Quality Standards (NAAQS) of the Clean Air Act.

**6.8 Threatened and Endangered Species.** The proposed project is being coordinated with the USFWS to determine if any endangered or threatened plant or animal species would be adversely affected by the proposed project. Based on reviews, the Corps, Mobile District determined that no endangered or threatened plant or animal species would be adversely affected by the proposed action. Based on previous conversations with the USFWS, they anticipate no adverse impacts to listed species would occur and state the project would provide an overall benefit. The Corps,

Mobile District will obtain concurrence from the USFWS with our determination of no effect to any listed threatened and/or endangered species prior to construction.

**6.8.1 No Action.** The No Action alternative would avoid any disruptions to any listed species that would be caused by construction of the project; however, no benefits of the project would be recognized. It is anticipated that ongoing conditions, further contamination and the threat to public health and safety, would worsen over time if the project is not constructed. Additionally, it is doubtful the area is used by any listed species.

## **7.0 COASTAL ZONE CONSISTENCY**

The State of Mississippi, Department of Marine Resources (MDMR) has been notified of this proposed action. It is anticipated that the MDMR will determine the proposed project to be consistent to the maximum extent practicable with the Mississippi Coastal Plan.

## **8.0 WATER QUALITY CERTIFICATION**

The State of Mississippi, Department of Environmental Quality, Office of Pollution Control (MDEQ-OPC) has been notified of this proposed action. It is anticipated that the MDEQ will issue water quality certification for the project.

## **9.0 PROTECTION OF CHILDREN**

The EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (April 21, 1997), recognizes a growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health risks and safety risks. These risks arise because children's bodily systems are not fully developed; because children eat, drink, and breathe more in proportion to their body weight; because their behavior patterns may make them more susceptible to accidents. Based on these factors, the President directed each Federal agency to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. The President also directed each Federal agency to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks. The project area is a residential subdivision and it is reasonable to believe children are members of the community; however there are no schools, parks, or playgrounds in the general project vicinity. The proposed project would provide a benefit to children by construction of a new water supply system and replacement of failed septic systems by construction of a new sewer system.

## **10.0 ENVIRONMENTAL JUSTICE**

On February 11, 1994, the President issued EO 12898, Federal actions to address *Environmental Justice in Minority Populations and Low Income Populations*. The EO focuses Federal attention on the environmental and human health conditions of minority and low-income populations with the goal of achieving environmental protection for all communities. The EO directs the Federal agencies to develop Environmental Justice strategies to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority and low-income populations. The proposed action poses no disproportionately high and/or adverse environmental and human health conditions on minority and low-income populations in the vicinity of the project.

### **11.0 CUMULATIVE EFFECTS SUMMARY**

Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The impacts on affected resources, ecosystems, and the human community resulting from the proposed project (when added to other past, present, and reasonably foreseeable future actions) are considered here. Most direct impacts, such as those on the natural environmental and physical resources, will occur primarily on-site and within existing public rights-of-way. As proposed, the project is not expected to contribute to adverse cumulative effects on water quality due to the limited nature of the development in wetlands and is expected to provide a benefit to overall water quality in the area by replacement of failing septic systems that currently exist. Implementation of BMPs should reduce cumulative impacts associated with construction related sediment run-off. The project will not cause cumulative impacts to wildlife resources. It is not anticipated that this project would lead to significant modifications in animal behavior by shifting home ranges, movement patterns and reproductive and feeding behaviors; it is likely those animals which currently utilize the site will move into relatively undisturbed adjacent habitat since the subdivision consists of large expansive lots spread over 2500 acres.

Based on the above discussion of the minor impacts, which would result from the implementation of the proposed project and due to the lack of long term adverse impacts, it is our belief that no significant cumulative impacts as a result of the woody and sediment debris removal activities would occur.

### **12.0 CONCLUSION**

The proposed action would have no significant environmental impacts on the existing environment. No mitigation actions are required for the proposed project. BMPs would be employed during the proposed actions to minimize any identified adverse impacts. The implementation of the proposed action would not have a significant adverse impact on the quality of the environment and an environmental impact statement is not required.

### **13.0. LIST OF PREPARERS.**

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### **14.0. LIST OF AGENCIES AND OTHERS CONTACTED OR NOTIFIED REGARDING THE ACTION.**

U.S. Environmental Protection Agency, Region 4  
U.S. Department of the Interior, Fish and Wildlife Service  
U.S. Department of Commerce, National Marine Fisheries Service

Gulf of Mexico Fishery Management Council  
Regional Director, National Parks Service  
Commander, Eighth Coast Guard District  
Mississippi Department of Environmental Quality  
Mississippi Department of Marine Resources  
Mississippi State Historic Preservation Officer  
Mississippi Secretary of State

#### **15.0. REFERENCES.**

Otvos, E.G. 1998. Mississippi's Coast: Geology in a Nut shell. In *Marine Resources and History of the Mississippi Gulf Coast*, Volume II. Mississippi Department of Marine Resources, Biloxi, MS.

American Association of Petroleum Geologists Meeting, New Orleans Geological Society. 91 p.

U.S. Census Bureau, 2004. *Fact Finder Page*. <http://www.census.gov>.

U.S. Fish and Wildlife Service, 2010. Mississippi List of Federally Threatened and Endangered Species by County, Jackson.

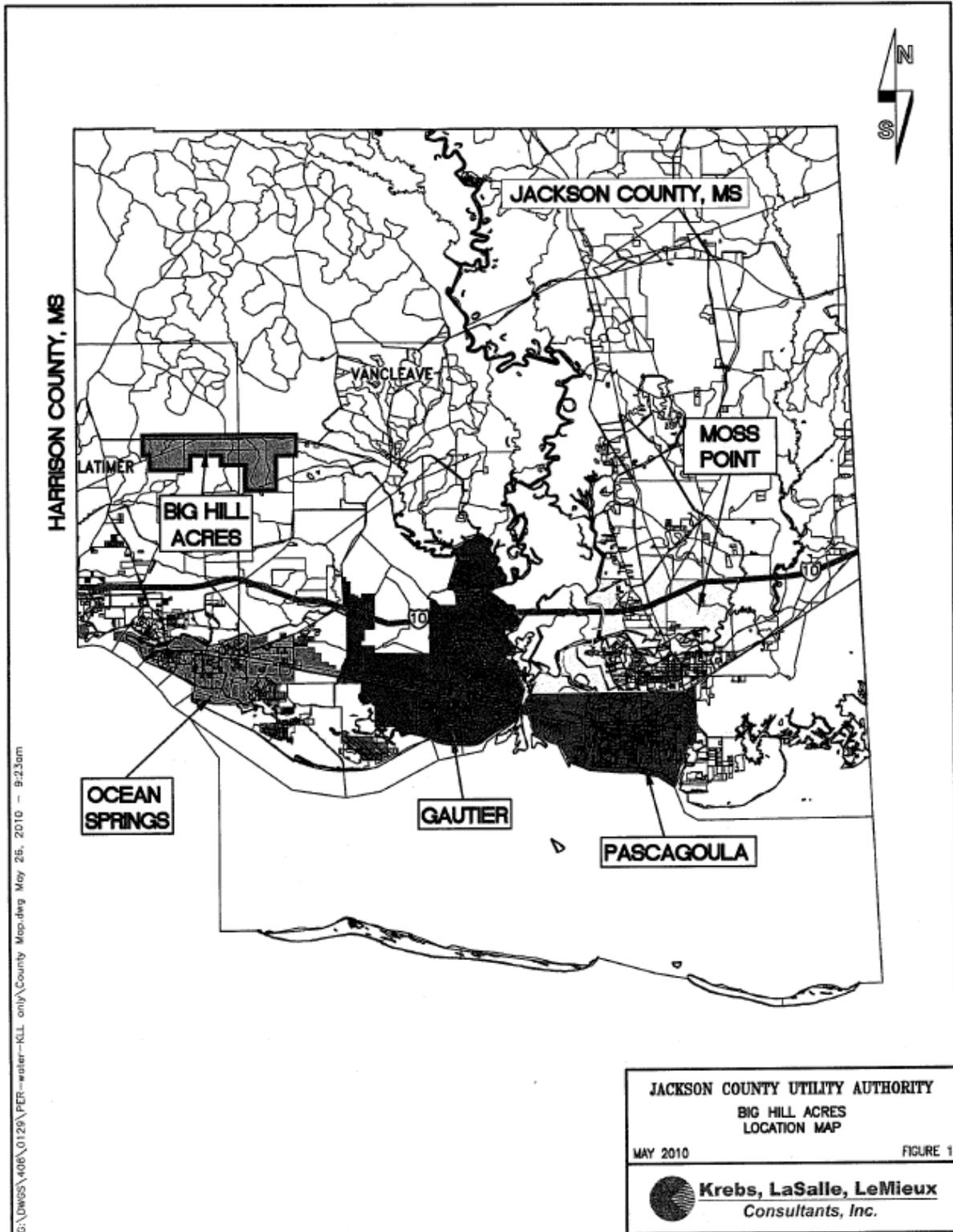


Figure 1 – Project Map

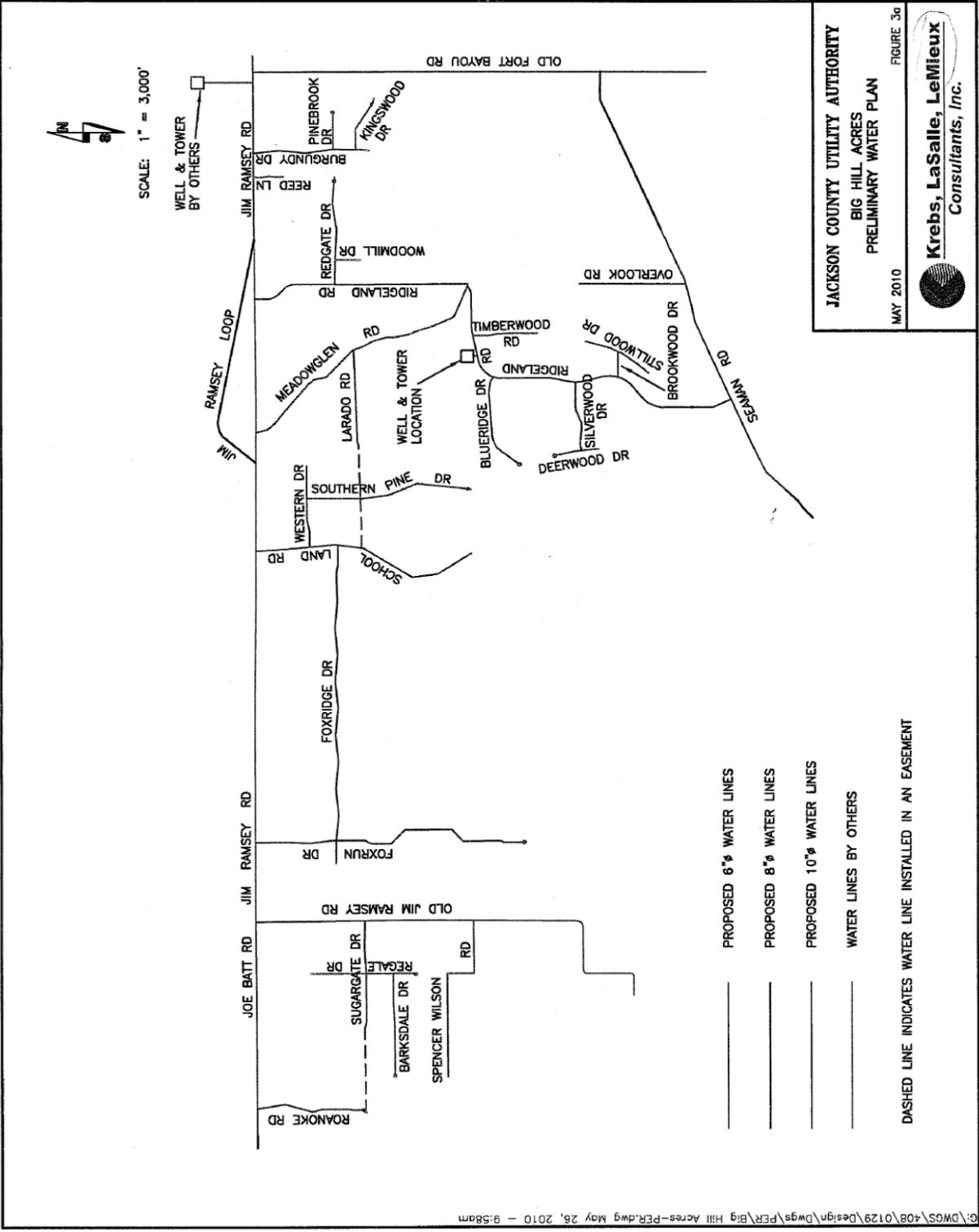


Figure 2 – Water System

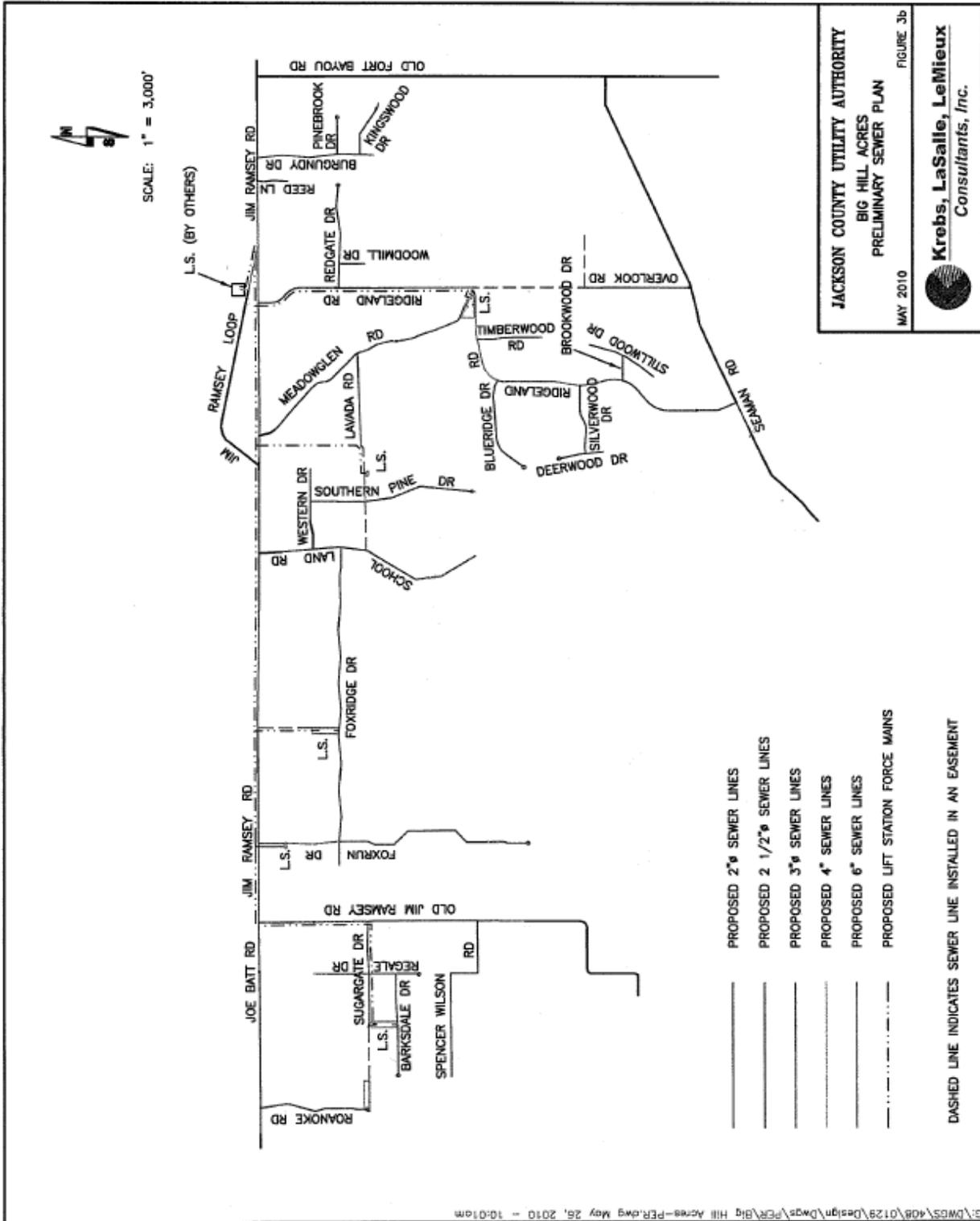


Figure 3 – Sewer System

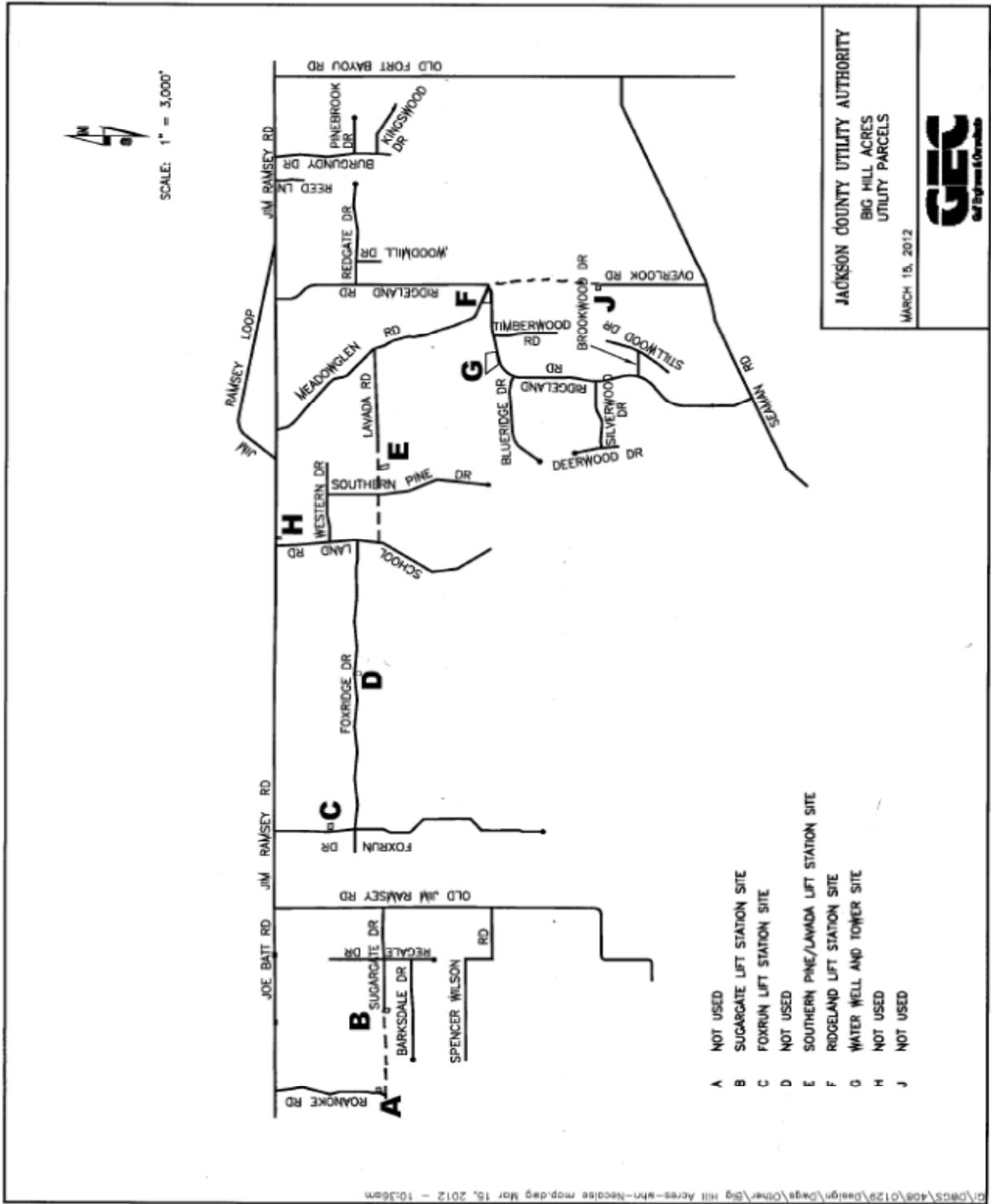


Figure 4 - Utility Parcels

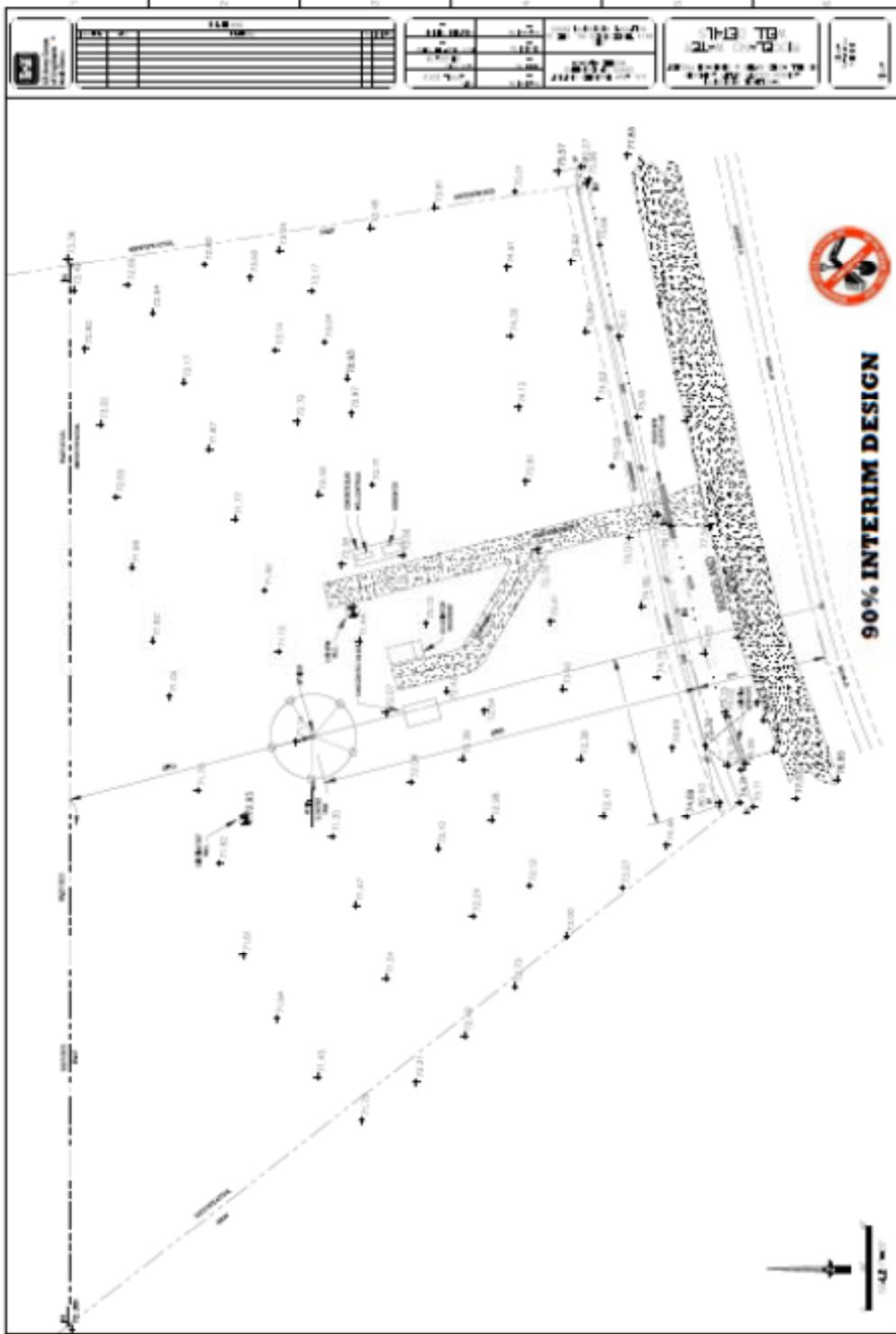


Figure 5 - Water Well and Elevated Tank

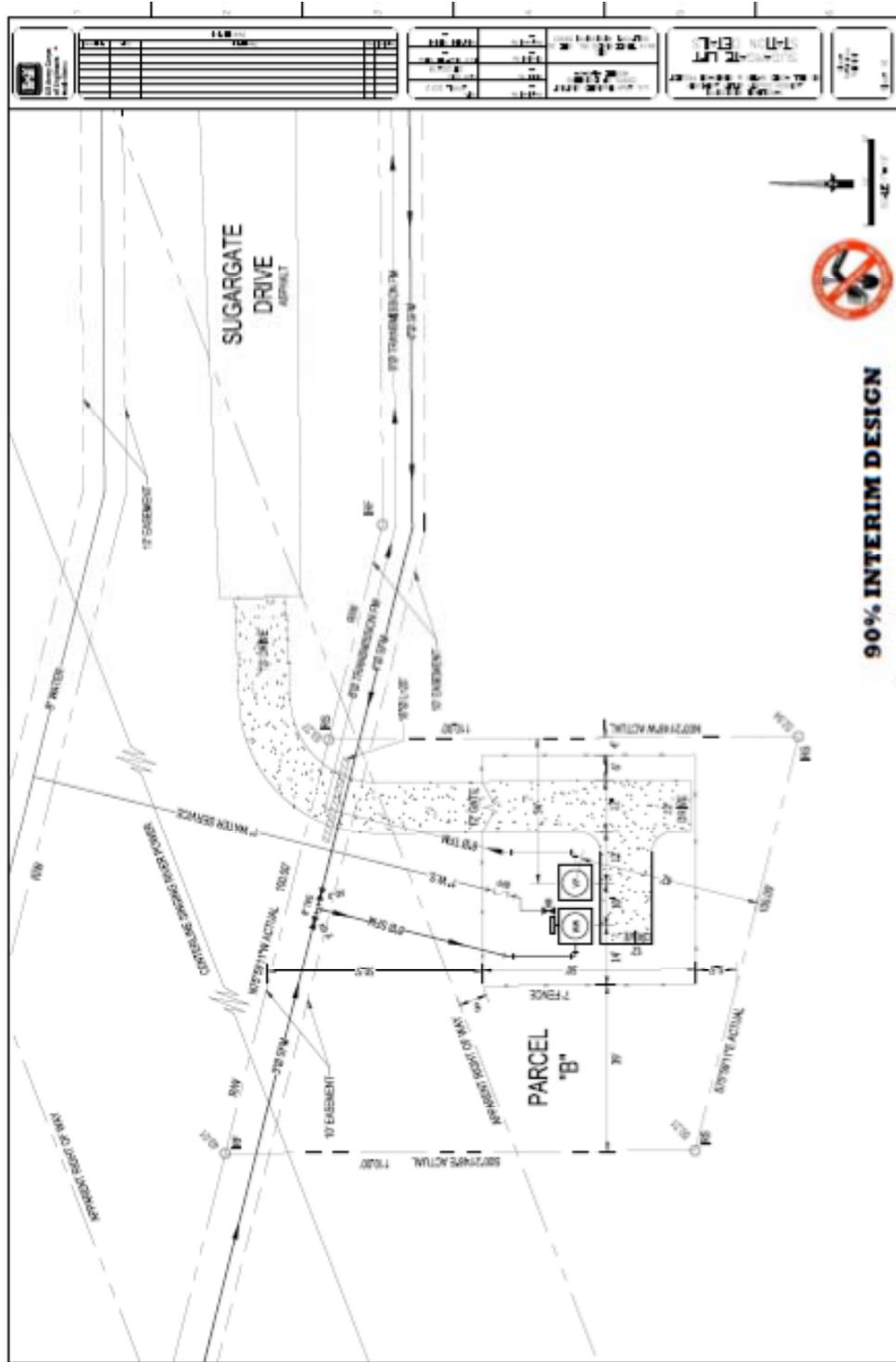


Figure 6 - Sugargate Lift Station Site



Figure 7 - Foxrun Lift Station



Figure 8 - Southern Pine/Lavada Lift Station



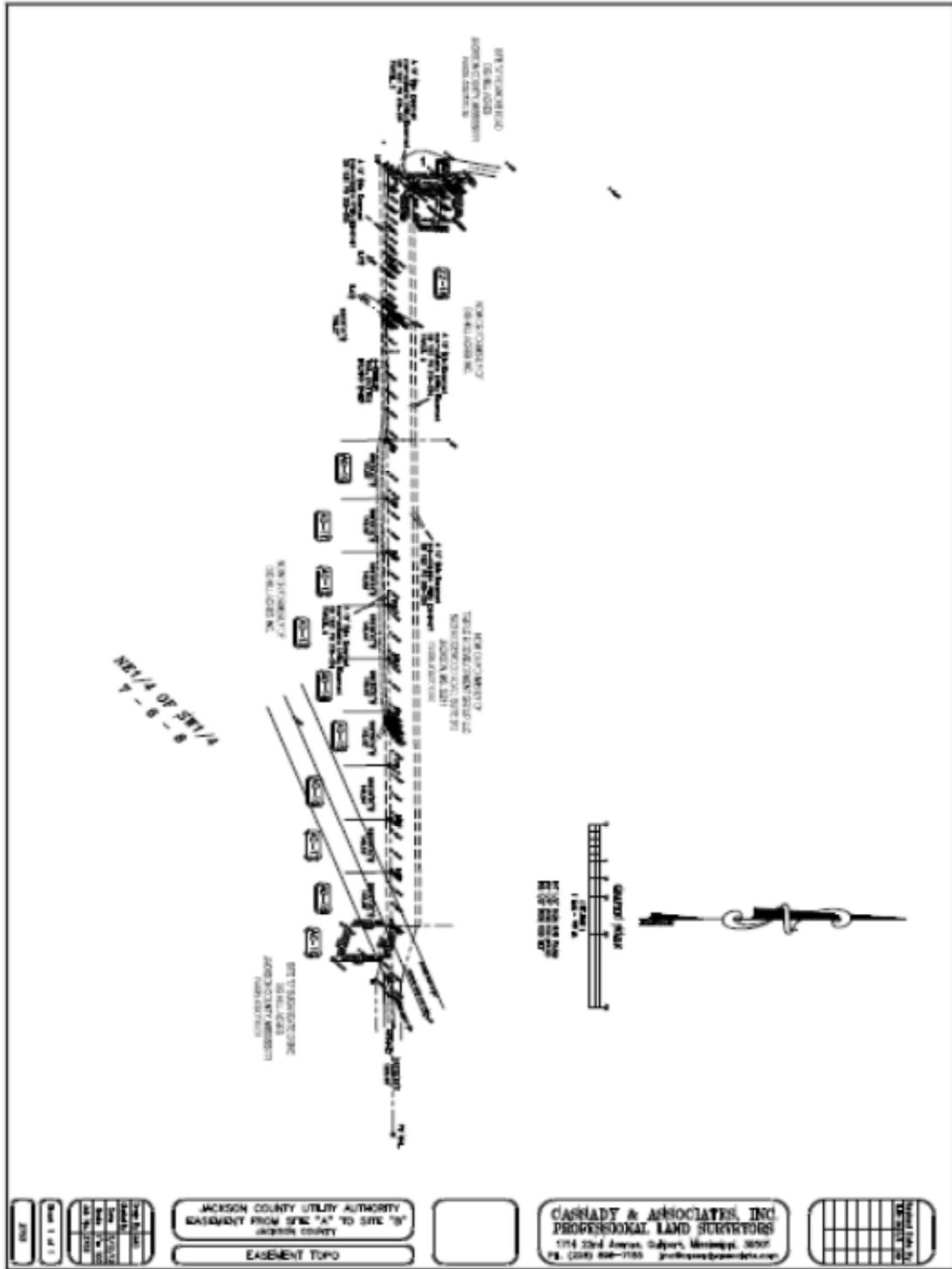


Figure 10 - Roanoke/Sugargate Easement



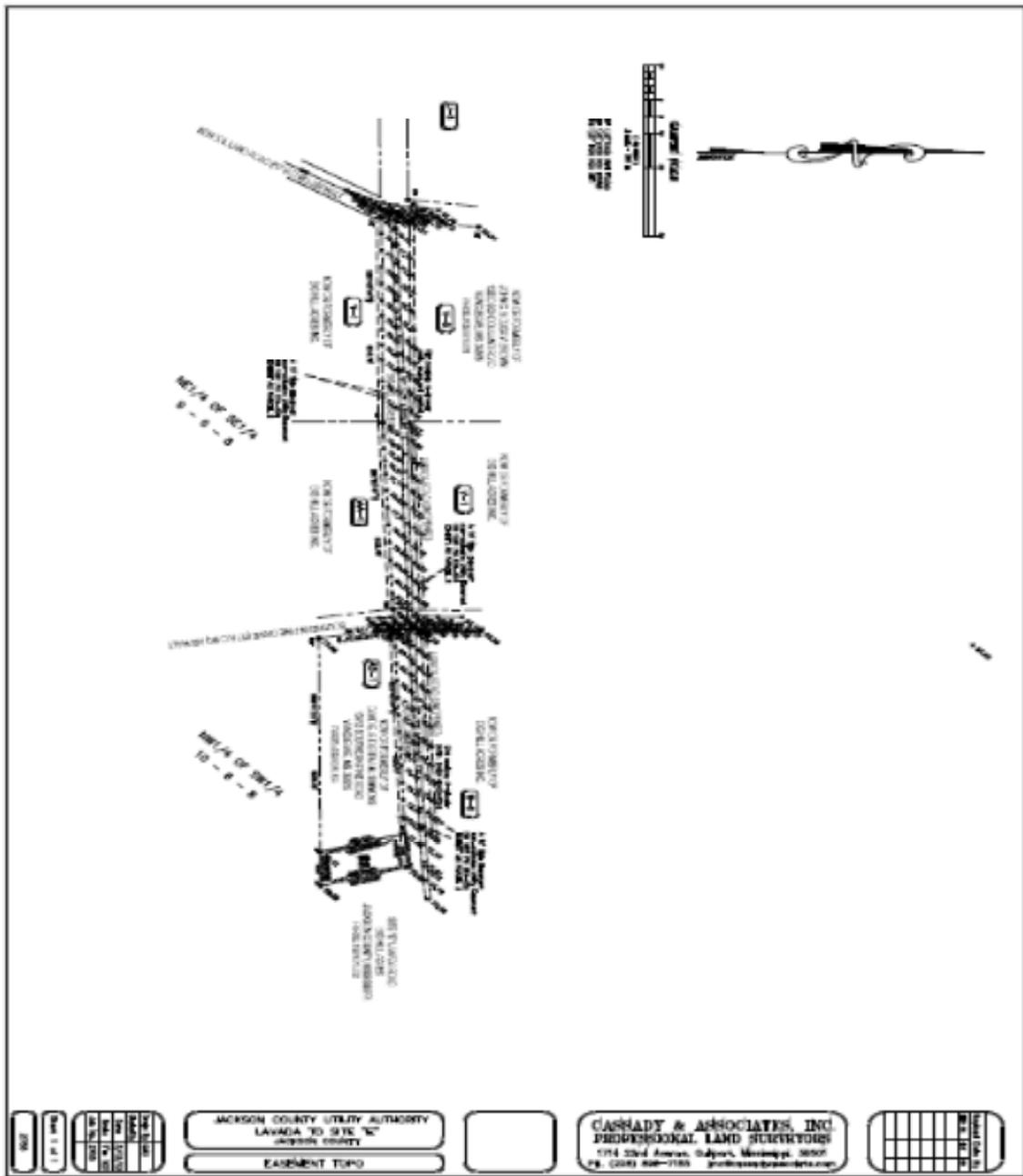


Figure 12 - Lavada Road Easement

