3.0 Affected Environment

This section presents information on the existing physical, biological, social and cultural environments, and other environmental disciplines that have been evaluated so far.

3.1 Physical Environment

3.1.1 Geology and Hydrogeology

Georgia Coastal Plain Geology and Hydrogeology

The City of Americus is in the northern part of the Atlantic/Gulf Coastal Plain geomorphic/physiographic province, which covers Georgia's southern half (Fig. 3-1). It consists of alluvial and sedimentary rock formations, from materials eroded from the igneous and metamorphic rocks of the older Blue Ridge and Piedmont Provinces to the north, and deposited since the Triassic Period 250 million years ago. The oldest geologic units exposed in Georgia's Coastal Plain are in a strip south of the "Fall Line", across the middle of the state, and are from the Late Cretaceous period, about 100 to 65 million years ago.

Americus and Sumter County are in the middle of the Fall Line Hills District of Georgia's Coastal Plain physiographic province. The Fall Line Hills District is characterized with land that is highly dissected, with little level land except in the marshy floodplains and their better drained, narrow stream terraces. Stream valleys are usually about 50 to 250 feet below adjacent ridge tops (DNR, 1976).

Americus Area Geologic Units

Americus area geologic units at the surface are from the Late Eocene to Early Oligocene Epochs, deposited about 40 to 20 million years ago. For the proposed 272-acre property, Late Eocene units are in lower areas along Muckalee Creek (Fig. 3-1; USGS, 1976). Early Oligocene units are in hillsides' higher elevations (Carter, 2009). These units have been exposed to surface and near surface weathering processes for thousands of years, so local geologists usually define the units at surface as residuum (residues or residual soils) of the original deposits, now usually quartz grains and kaolin-type clays.

The Former Hospital Site's exposed geologic units are also Eocene-Oligocene Residuum.

The Eocene Age Claiborne undifferentiated sedimentary unit covers about 40 percent of the 272-acre property, in the northeast. This unit's primary rock type is sandstone, secondary type is clay or mud, and tertiary type is limestone (Fig. 3-1; USGS 2009).

The Eocene-Oligocene Residuum undifferentiated, weathered sedimentary unit covers about 60 percent of the 272-acre property, in the southwest. The primary rock type is sand and the secondary type is clay or mud (USGS, 2009).

FEDERAL EMERGENCY MANAGEMENT AGENCY

Figure 3-1: Geologic Map of 272-Acre Property & Proposed New Hospital Site

APPLICANT:	Sumter Regional Hospital/Phoebe Sumter Medical Center	DATE:	Aug. 2009
FIPS NO.:	261-UJ4LD-00	PW REF. NO.	193

Explanation

Qal **Quaternary Alluvium**
(Not mapped at this scale.)
Quaternary Age
Description: Muckalee Creek streambed erosional deposits wetland areas

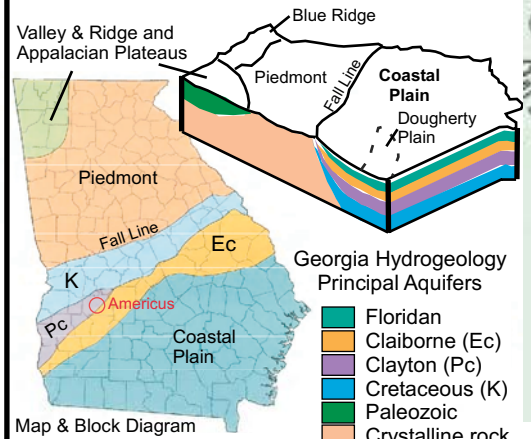
Primary rock type: sand
Secondary type: clay or mud

Eo - ϕs **Eocene & Oligocene Residuum**
undifferentiated
Eocene-Oligocene Age

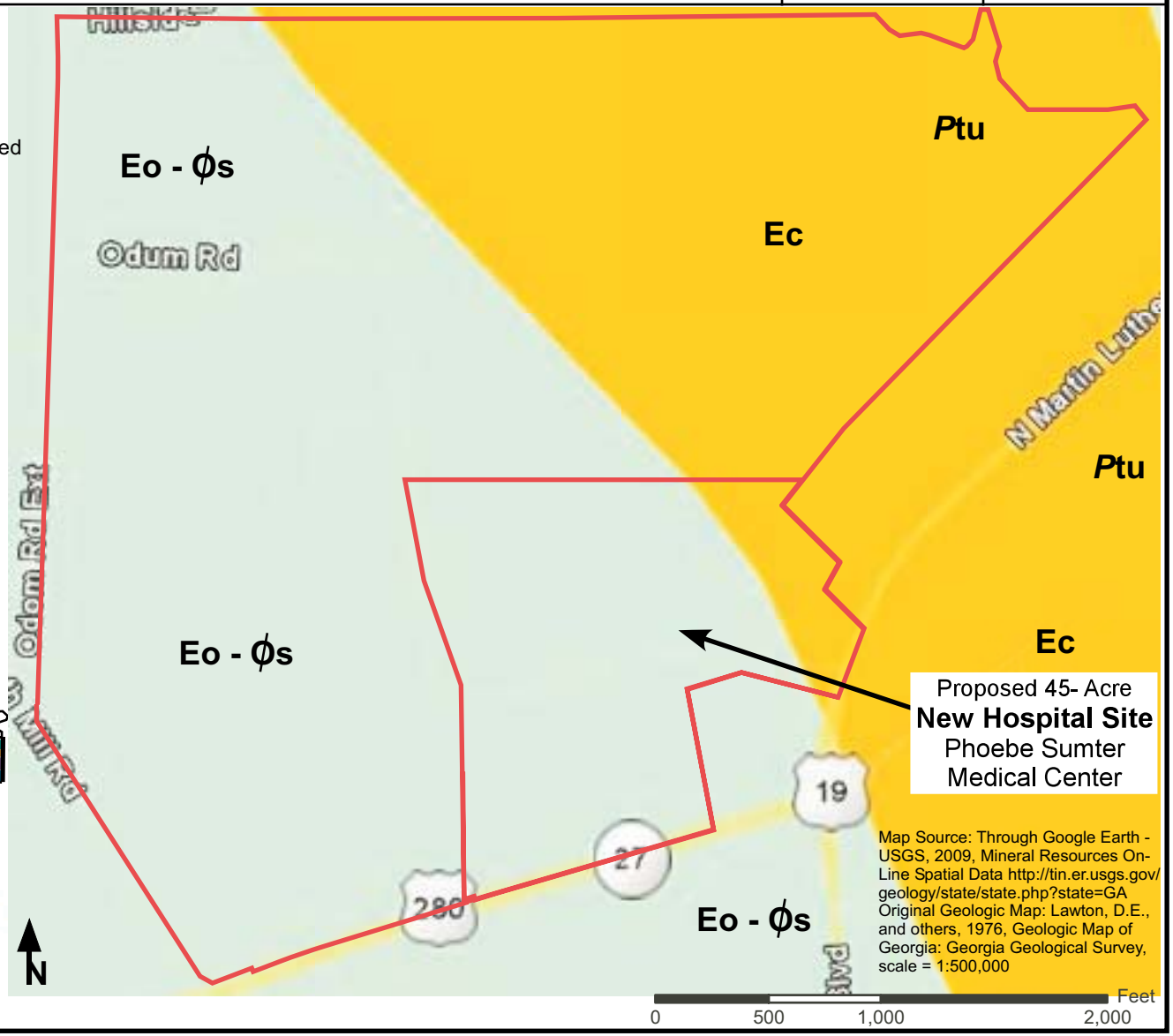
Primary rock type: sand
Secondary type: clay or mud

Ec **Claiborne undifferentiated**
Eocene Age
Description: up-dip equivalent of Lisbon & Tallahatta Formations

Primary rock type: sandstone
Secondary type: clay or mud
Tertiary type: carbonate



Map & Block Diagram
Source: USGS, 1986



Map Source: Through Google Earth - USGS, 2009, Mineral Resources On-Line Spatial Data http://tin.er.usgs.gov/geology/state/state.php?state=GA
Original Geologic Map: Lawton, D.E., and others, 1976, Geologic Map of Georgia: Georgia Geological Survey, scale = 1:500,000

The recent Quaternary Alluvium is not shown on the map as it represents a thin and narrow deposit of clays, silts, and sands along Muckalee Creek, from more recent erosion within the watershed.

Limestone is rarely found in Late Eocene and Early Oligocene unit surface exposures, as limestone is made mostly of calcium carbonate and dissolves as naturally acidic rainwater percolates downward and groundwater flows through the units. Small to large residual chert boulders are commonly found in the Americus area's Early Oligocene units (Carter, 2009).

Americus area water supplies are usually from groundwater wells. The Georgia Coastal Plain has several major aquifers, from youngest to oldest, the Floridan, Clairborne, Clayton, and Cretaceous aquifers (Fig. 3-1). The Floridan aquifer is absent in the Americus area. Americus area wells pump groundwater from the shallow Claiborne aquifer (if present), and the deeper Clayton and Cretaceous aquifers (USGS, 1986).

3.1.2 Geologic Hazards

Georgia Coastal Plain geologic hazards include sinkholes and coastal erosion. Sinkholes form in limestone bedrock areas when subsurface dissolution creates cavities that lead to surface collapse. Examples exist in areas around Albany and Plains, Georgia. However, no sinkholes have been identified in the Americus area (Carter, 2009).

3.1.3 Topography

Former Hospital Site Topography

The Former Hospital site's east side is on a hilltop and its west side is on a hillslope (Fig. 3-2). The hospital parking lot was on the east side's flatter 2 to 8 percent grade hilltop. The hospital buildings were mostly on the west side's steeper 8 to12 percent grade hillslopes. Site elevation ranges from about 460 feet to 395 feet above mean sea level (amsl), from the site's northeast to southwest corners. Surface water runoff flows westward from the site to an unnamed tributary streambed of Muckalee Creek.

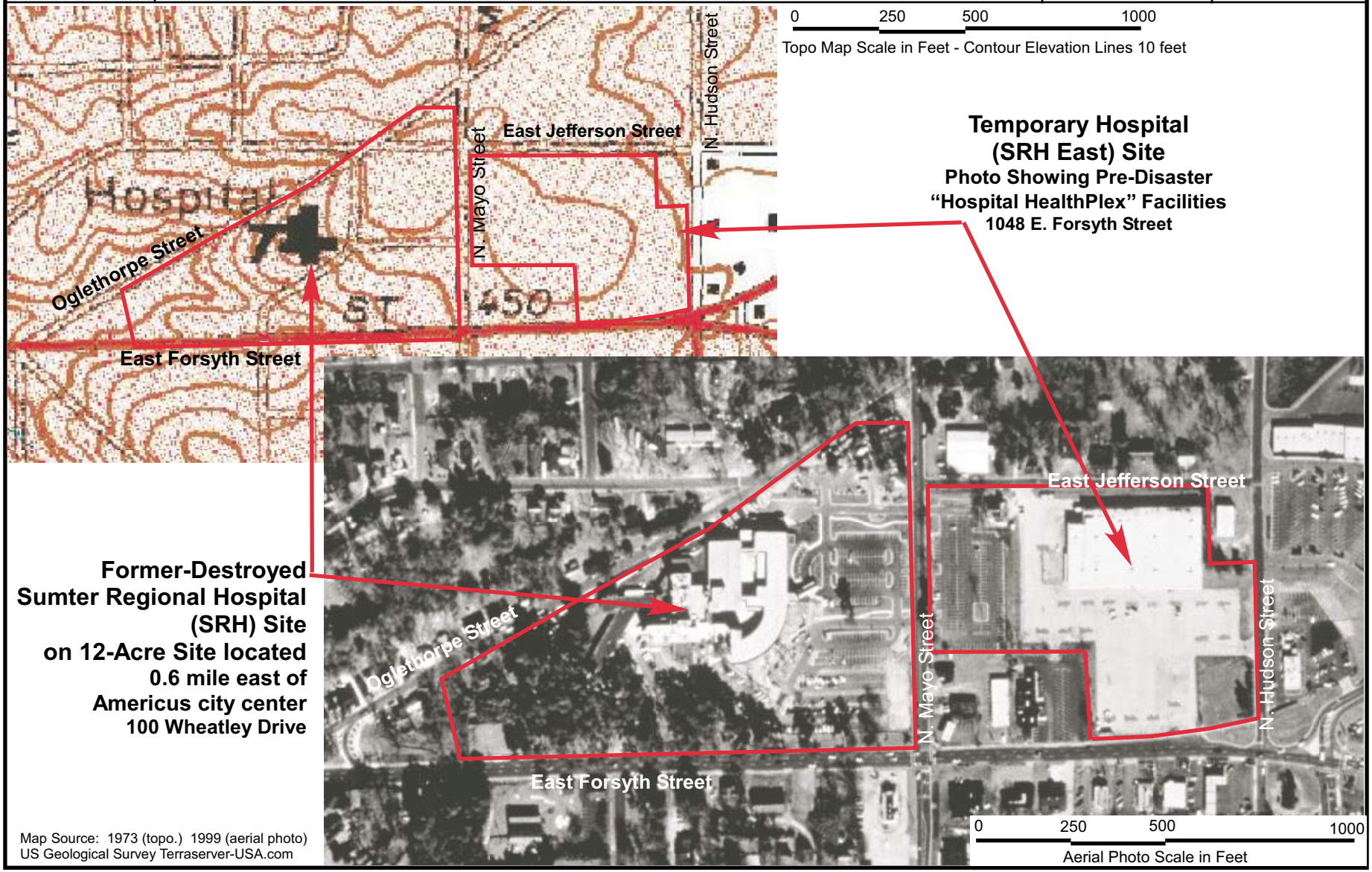
272-Acre Property Topography

The 272-acre property is along the west side of Muckalee Creek. Elevations range from 430 to 420 feet amsl, respectively, at high points in the property's northwest and southwest corners, to about 315 feet amsl elevation at Muckalee Creek (Fig. 3-3). An unnamed intermittent stream/streambed starts at about 375 feet amsl near the property's center. Most of this property's surface water runoff drains into this streambed, which flows northeast, and drains into Muckalee Creek, which flows southeast. Four smaller drainage areas, from about 10 to 30 acres each, are in the property's corners, and also drain into Muckalee Creek.

FEDERAL EMERGENCY MANAGEMENT AGENCY

Figure 3-2: Topographic Map & Aerial Photo of Sumter Regional Hospital Former Hospital Site

APPLICANT:	Sumter Regional Hospital/Phoebe Sumter Medical Center	DATE:	Aug. 2009
FIPS NO.:	261-UJ4LD-00	PW REF. NO.	193

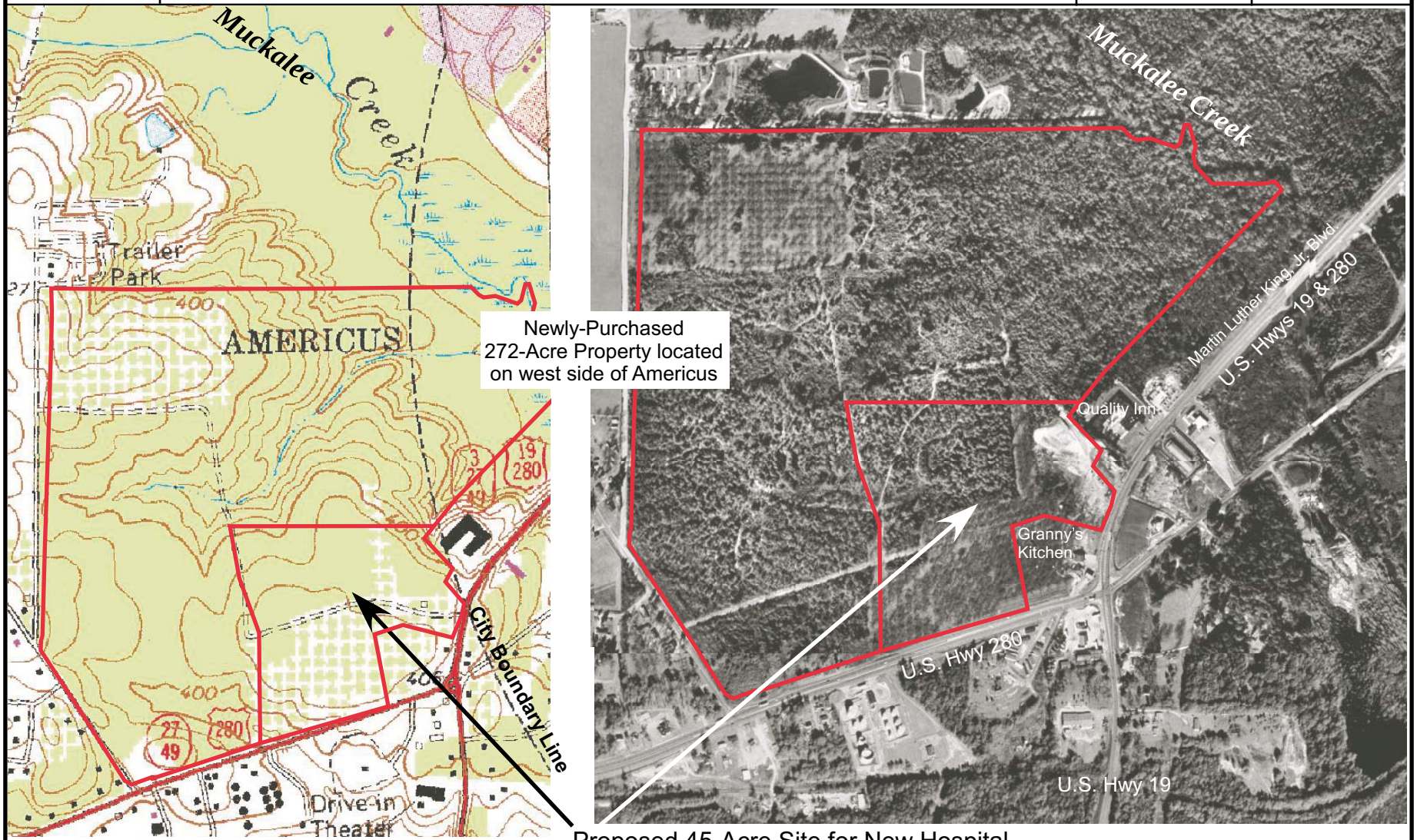


Map Source: 1973 (topo.) 1999 (aerial photo)
US Geological Survey Terraserver-USA.com

FEDERAL EMERGENCY MANAGEMENT AGENCY

Figure 3-3: Topographic Map & Aerial Photo - 272-Acre Property & Proposed New Hospital Site

APPLICANT:	Sumter Regional Hospital/Phoebe Sumter Medical Center	DATE:	Aug. 2009
FIPS NO.:	261-UJ4LD-00	PW REF. NO.	193



Proposed 45-Acre Site for New Hospital
Phoebe Sumter Medical Center

Map Source: 1973 (topo.) 1999 (aerial photo)
US Geological Survey Terraserver-USA.com

New Hospital Site Topography

The topography of the 45-acres proposed New Hospital site ranges in elevation from 431 feet amsl near the center of the site and about 380 feet amsl at the site's northwest corner, near the unnamed intermittent streambed. All surface water drainage is radially away from the 431 feet elevation high point, where the main hospital building is planned to be built.

3.1.4 Soils

Soil associations have a distinctive and proportional pattern of soils, normally consisting of one or more types of soils. The soils are different at each project site. The following soil descriptions from the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS, 2009).

Former Hospital Site Soils

Former Hospital site soils are of two types, the Greenville (57 percent) and Tifton (43 percent) (Fig. 3-4). Greenville soil consists of sandy clay loam and is characterized with somewhat steep slopes of 8 to 12 percent and severely eroded. It is found on the site's west side, essentially where the Former Hospital buildings existed. Tifton soil consists of sandy loam and is characterized with slopes ranging from 2 to 8 percent that may be eroded. It is found on the site's east side where much of the Former Hospital's paved parking lot still exists. Based on NRCS WSS GIS analysis, the Greenville soils area is rated to have a "very limited" capacity for constructing small commercial buildings. The Tifton soils area has a "somewhat limited" or "not limited" capacity for construction.

Table 3-1: Former Hospital Site Soil Characteristics

Map Unit Symbol	Percent of Area	Map Unit Name & Summary Description	Farmland Rating	Infiltration Drainage Rating	Building Rating
GqD3	**57**	Greenville sandy clay loam, 8 to 12 % slopes, severely eroded (west side site – hospital bldgs.)	Not Prime Farmland	**B –** Moderate Rate	Very Limited
TuB2 **TuC2**	**43**	19.5 % Tifton sandy loam, 2 to 5 % slopes 23.9 % Tifton sandy loam, 5 to 8 % slopes (east side site – parking lots)	All areas are prime farmland	**B –** Moderate Rate	Not Limited Somewhat Limited
Total	**100**				

272-Acre Property Soils

The 272-acre property soils are mostly four types: Kinston and Bibb, Lucy loamy sand, Lakeland sand, and Orangeburg loamy sand (Figs. 3-5a, 3-5b and 3-5c, respectively), showing soil characteristics for farmland, hydrologic-infiltration capacity, and capacity for commercial buildings. These characteristics are summarized for the 272-acre property (Table 3-2) and for the 45-acre south-central area for the proposed New Hospital site (Table 3-3).

FEDERAL EMERGENCY MANAGEMENT AGENCY

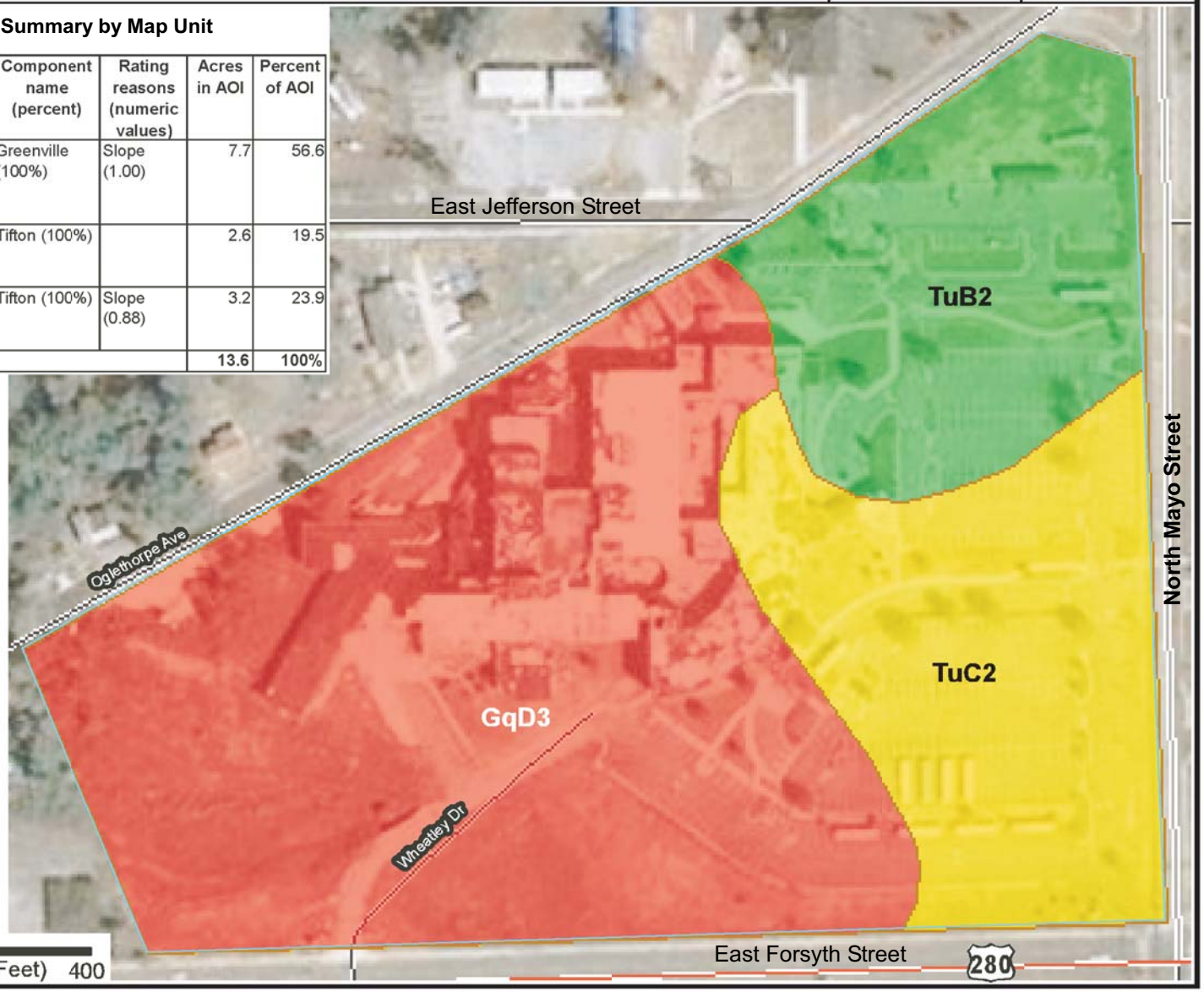
Figure 3-4: Building Soil Map of Former Hospital Site

APPLICANT:	Sumter Regional Hospital/Phoebe Sumter Medical Center	DATE:	Aug. 2009
FIPS NO.:	261-UJ4LD-00	PW REF. NO.	193

Small Commercial Buildings— Summary by Map Unit

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
GqD3	Greenville sandy clay loam, 8 to 12 percent slopes, severely eroded	Very limited	Greenville (100%)	Slope (1.00)	7.7	56.6
TuB2	Tifton sandy loam, 2 to 5 percent slopes, eroded	Not limited	Tifton (100%)		2.6	19.5
TuC2	Tifton sandy loam, 5 to 8 percent slopes, eroded	Somewhat limited	Tifton (100%)	Slope (0.88)	3.2	23.9
Totals for Area of Interest					13.6	100%

Actual Property Area is 12.5 acres - Estimated Area of Interest (AOI) on presented boundaries drawn in GIS website.



Soil Rating for Construction of Small Commercial Buildings

- Very Limited 57 %
- Somewhat Limited 24 %
- Not Limited 19 %

Map Source: USDA NRCS Web Soil Survey (WSS) July 2009, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

0 100 200 Scale (Feet) 400

Table 3-2: 272-Acre Property Soil Characteristics

Map Unit Symbol	Percent of Area	Map Unit Name & Summary Description	Farmland Rating	Infiltration Drainage Rating	Building Rating
Kib	**21**	Kinston and Bibb soils (within wetlands areas)	Not Prime Farmland	**B/D -** Moderate to Very Slow Rate (drained/undrained)	Very Limited
LMC	**20**	Lucy loamy sand (central area of site)	Farmland of statewide importance	**A –** High Rate	Somewhat Limited
LpC **LpE**	**10**	8 % Lakeland sand, 0 to 8 % slopes 2 % Lakeland sand, 8 to 17% slopes (both found between wetlands and main property area)	Not Prime Farmland	**A –** High Rate	Not Limited Very Limited
OeA **OeB** **OeC2** **OeD2**	**45**	9.8 % Orangeburg loamy sand, 0 -2 % slopes 16.6% Orangeburg loamy sand, 2 - 5 % slopes 16.2 % Orangeburg loamy sand, 5 - 8 % slopes, eroded 2.5 % Orangeburg loamy sand, 8 - 12 % slopes, eroded (found west and south areas)	Prime Farmland Prime Farmland Prime Farmland Farmland of statewide importance	**B –** Moderate Rate	Not Limited Not Limited Somewhat Limited Very Limited
Total	**96**				

Table 3-3: Proposed New Hospital Site Soil Characteristics

Map Unit Symbol	Percent of Area	Map Unit Name & Summary Description	Farmland Rating	Infiltration Drainage Rating	Building Rating
LMC	**30**	Lucy loamy sand (central area of site)	Farmland of statewide importance	**A –** High Rate	Somewhat Limited
OeA **OeB** **OeC2**	**70**	Orangeburg loamy sand, 0 -2 % slopes Orangeburg loamy sand, 2 - 5 % slopes Orangeburg loamy sand, 5 - 8 % slopes, eroded	Prime Farmland Prime Farmland Prime Farmland	**B –** Moderate Rate	Not Limited Not Limited Somewhat Limited

272-Acre Property Farmland Character

The New Hospital site was used many decades for farmland, except for the Muckalee Creek wetlands area and the wetlands area associated with the unnamed intermittent streambed, that starts at the site's center and extends northeast to Muckalee Creek. Based on the NRCS WSS GIS analysis the property farmland characteristics are (Fig. 3-5a):

43 percent - Prime Farmland
25 percent - Farmland of Statewide Importance
32 percent - Not Prime Farmland (wetlands areas and wetland slopes)

FEDERAL EMERGENCY MANAGEMENT AGENCY

Figure 3-5a: Farmland Soil Map of 272-Acre Property & Proposed New Hospital Site

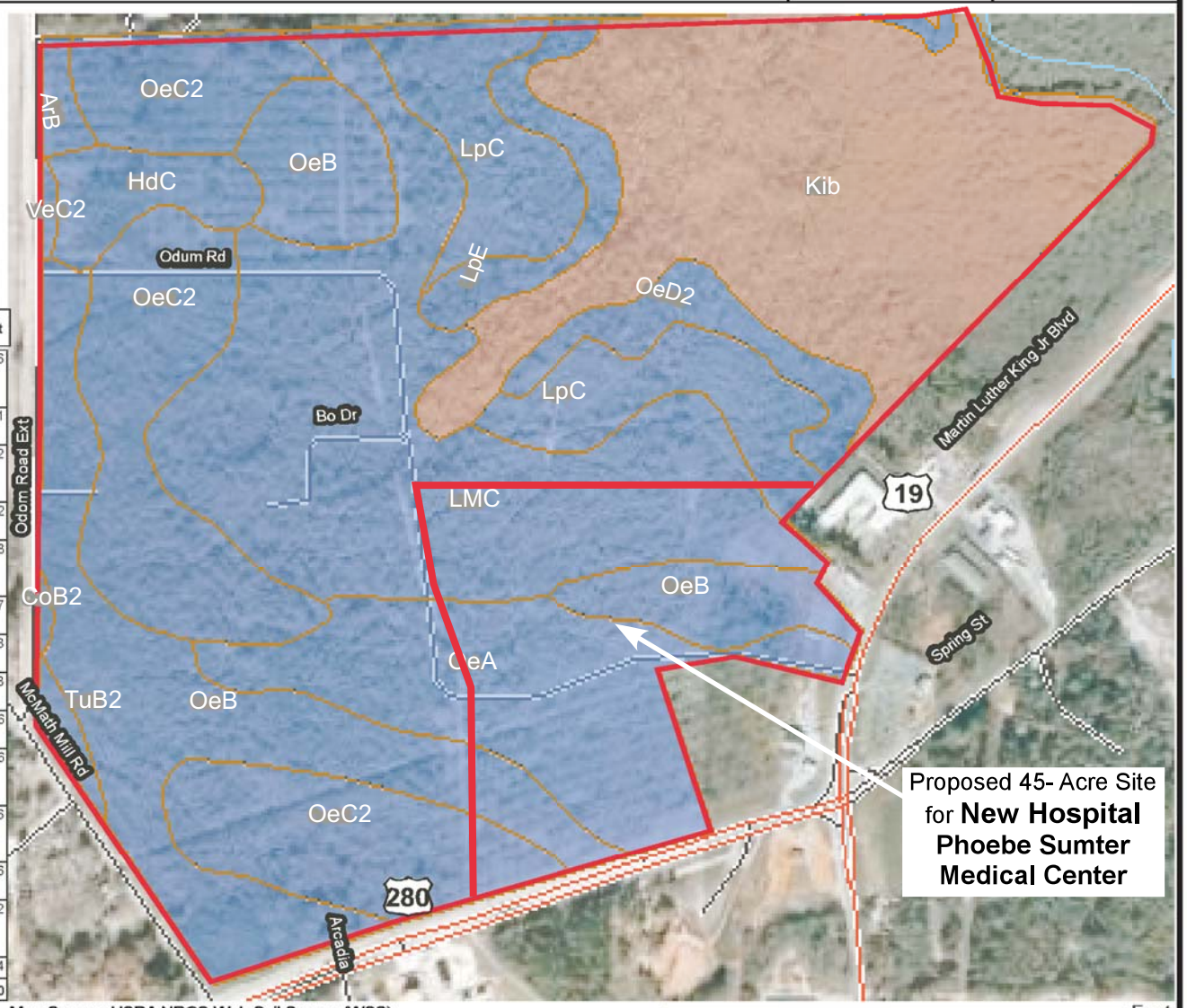
APPLICANT:	Sumter Regional Hospital/Phoebe Sumter Medical Center	DATE:	Aug. 2009
FIPS NO.:	261-UJ4LD-00	PW REF. NO.	193

Soil Ratings

- Not Prime Farmland 32 %
- Prime Farmland or Farmland of Statewide Significance 43 % 25 %

Farmland Classification Summary by Soil Map Unit

Map unit	Map unit name	Rating	Acres	Percent
ArB	Americus loamy sand, 0 to 5 % slopes	Farmland of statewide importance	1.6	0.6
CoB2	Carnegie sandy loam, 2 to 5 % slopes, eroded	All areas are prime farmland	0.3	0.1
HdC	Henderson cherty sandy loam, 2 to 8 % slopes	Farmland of statewide importance	6	2.2
Kib	Kinston and Bibb soils	Not prime farmland	58.6	21.2
LMC	Lucy loamy sand, 5 to 8 % slopes	Farmland of statewide importance	54.6	19.8
LpC	Lakeland sand, 0 to 8 % slopes	Not prime farmland	21.3	7.7
LpE	Lakeland sand, 8 to 17 % slopes	Not prime farmland	6.4	2.3
OeA	Orangeburg loamy sand, 0 to 2 % slopes	All areas are prime farmland	27	9.8
OeB	Orangeburg loamy sand, 2 to 5 % slopes	All areas are prime farmland	45.7	16.6
OeC2	Orangeburg loamy sand, 5 to 8 % slopes, eroded	All areas are prime farmland	44.2	16
OeD2	Orangeburg loamy sand, 8 to 12 % slopes, eroded	Farmland of statewide importance	7.2	2.6
TuB2	Tifton sandy loam, 2 to 5 % slopes, eroded	All areas are prime farmland	1.5	0.6
VeC2	Vaucluse loamy sand, 5 to 8 % slopes, eroded	Farmland of statewide importance	0.5	0.2
W	Water	Not prime farmland	1.1	0.4
Totals for Area of Interest			275.9	100



Map Source: USDA NRCS Web Soil Survey (WSS)
July 2009, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

0 500 1,000 2,000 Feet

Proposed New Hospital Site Farmland Character

The proposed 45-acre New Hospital site construction will be entirely within designated Prime Farmland.

272-Acre Property Hydrologic Infiltration Drainage

The soil hydrologic infiltration capacity for different soils is shown on Fig. 3-5b. There are three main soil infiltration ratings at the 272-acre property as follows:

30 percent – High Infiltration Rate (low runoff rate)
48 percent – Moderate Infiltration Rate
21 percent – Moderate to Very Slow Infiltration Rate for drained/undrained soils

New Hospital Site Hydrologic Infiltration Drainage

The 45-acres New Hospital site will be built almost entirely overlying Orangeburg loamy sand soils with high infiltration rates. About 3 acres northwest of the planned main hospital building will be built on Lucy loamy sand soils also with high infiltration rates.

272-Acre Property Buildings Construction

Site soil mapping (Fig. 3-5c) indicates about 74 percent (about 201 acres) of the 272-acre property has soils with somewhat limited to not limited characteristics for commercial building construction, based primarily on inherent soil character and gentle ground surface slopes ranging from 2 to 8 percent. The remaining 26 percent (about 71 acres) appear to have a very limited characteristic for small commercial building construction, with slopes ranging from 8 to 17 percent, but mostly due to wetland areas and flooding along Muckalee Creek.

New Hospital Site Buildings Construction

The proposed New Hospital 45-acre site is in the 272-acre property's south-central area. Elevations here range about 20 feet, from about 430 to about 410 feet amsl. This is a flatter area for hospital facility construction and operation than the Former Hospital site, where building area elevations range about 50 feet, from about 460 to about 410 feet amsl.

3.1.5 Floodplain Management

The City of Americus is upstream of the middle of the Muckalee Creek Watershed (02356000), which has a total area of 234,070 acres, or 366 square miles. The original city boundary line, circa 1830s, was a 2.5 mile diameter circle centered about one mile east from Muckalee Creek. Muckalee Creek flows southward and ends at Lake Worth, north of Albany, part of the larger Flint River Watershed. The Flint River Watershed at Albany, along with other tributary watersheds, has a total area of 5,285 square miles (UGA, 2005).

FEDERAL EMERGENCY MANAGEMENT AGENCY

Figure 3-5b: Soil Hydrologic Map of 272-Acre Property & Proposed New Hospital Site

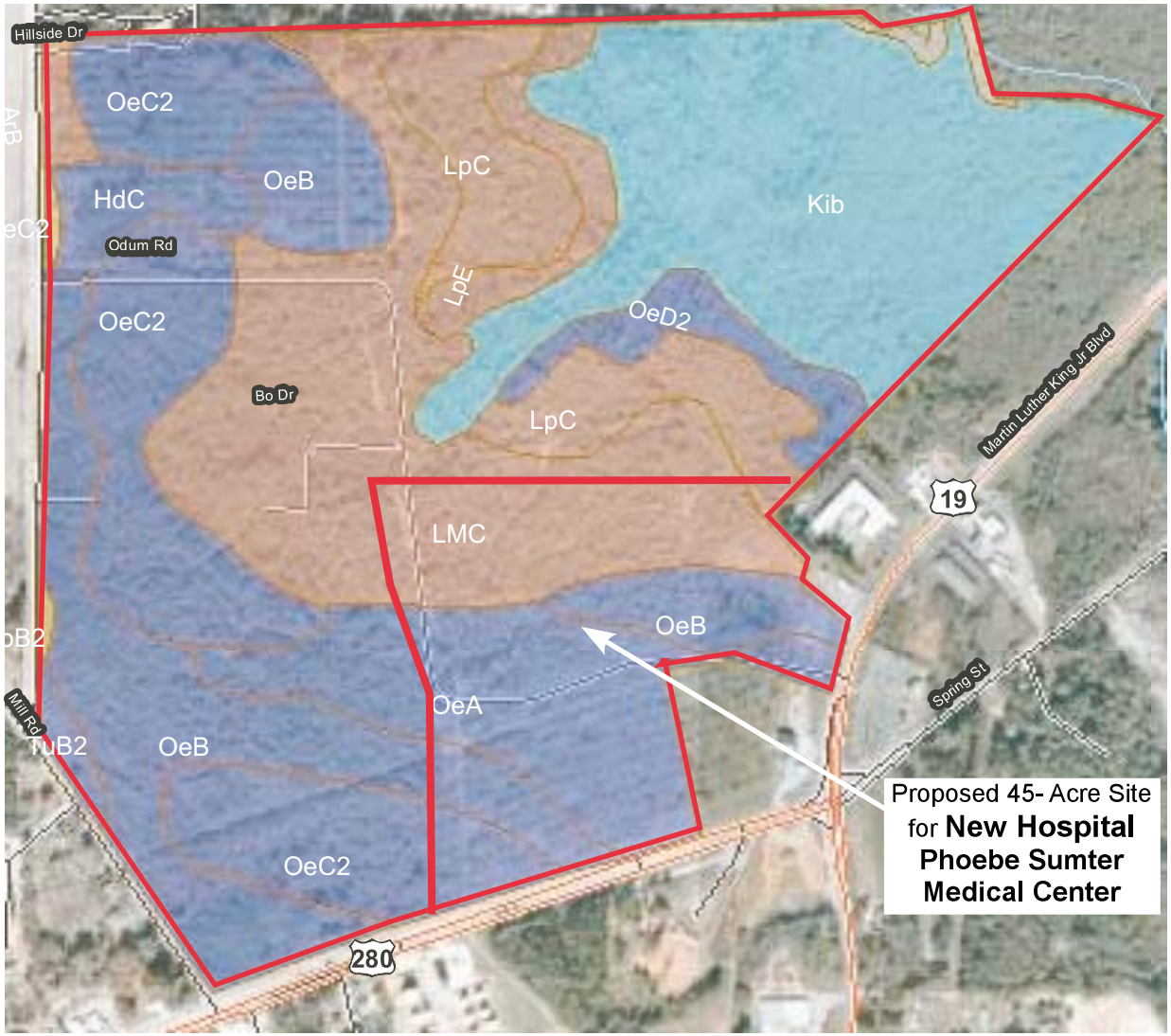
APPLICANT:	Sumter Regional Hospital/Phoebe Sumter Medical Center	DATE:	Aug. 2009
FIPS NO.:	261-UJ4LD-00	PW REF. NO.	193

Soil Group Descriptions & Percent on Property

- A - High Infiltration Rate (low runoff rate) **30 %**
- A/D (for drained/undrained soils) **0 %**
- B - Moderate Infiltration Rate **48 %**
- B/D (for drained/undrained soils) **21 %**
- C - Slow Infiltration Rate **0.2 %**
- C/D (for drained/undrained soils) **0%**
- D - Very Slow Infiltration Rate (high runoff) **0%**

Hydrologic Rating by Soil Group/Map Unit
Sumter Counties, Georgia

Unit	Map unit name	Rating	Acres	Percent
ArB	Americus loamy sand, 0-5 % slopes	A	1.6	0.6
CoB2	Carnegie sandy loam, 2-5 % slopes, eroded	C	0.4	0.1
HdC	Henderson cherty sandy loam, 2-8 % slopes	B	6.0	2.2
Kib	Kinston and Bibb soils	B/D	58.3	21.0
LMC	Lucy laomy sand, 5-8% slopes	A	54.6	19.7
LpC	Lakeland sand, 0-8 % slopes	A	21.6	7.8
LpD	Lakeland sand, 8-17 % slopes	A	6.5	2.3
OeA	Orangeburg loamy sand, 0-2 % slopes	B	27.2	9.8
OeB	Orangeburg loamy sand, 2-5 % slopes	B	46.1	16.6
OeC2	Orangeburg loamy sand, 5-8 % slopes, eroded	B	44.9	16.2
OeD2	Orangeburg loamy sand, 8-12 % slopes, eroded	B	7.1	2.5
TuB2	Tifton sandy loam, 2-5 % slopes, eroded	B	1.9	0.7
VeC2	Vaucluse loamy sand, 5-8 percent slopes, eroded	C	0.4	0.1
W	Water		1.2	0.4
Total for Area of Interest			**278**	**100**



Map Source: USDA NRCS Web Soil Survey (WSS)
July 2009, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Feet: 0 500 1,000 2,000

FEDERAL EMERGENCY MANAGEMENT AGENCY

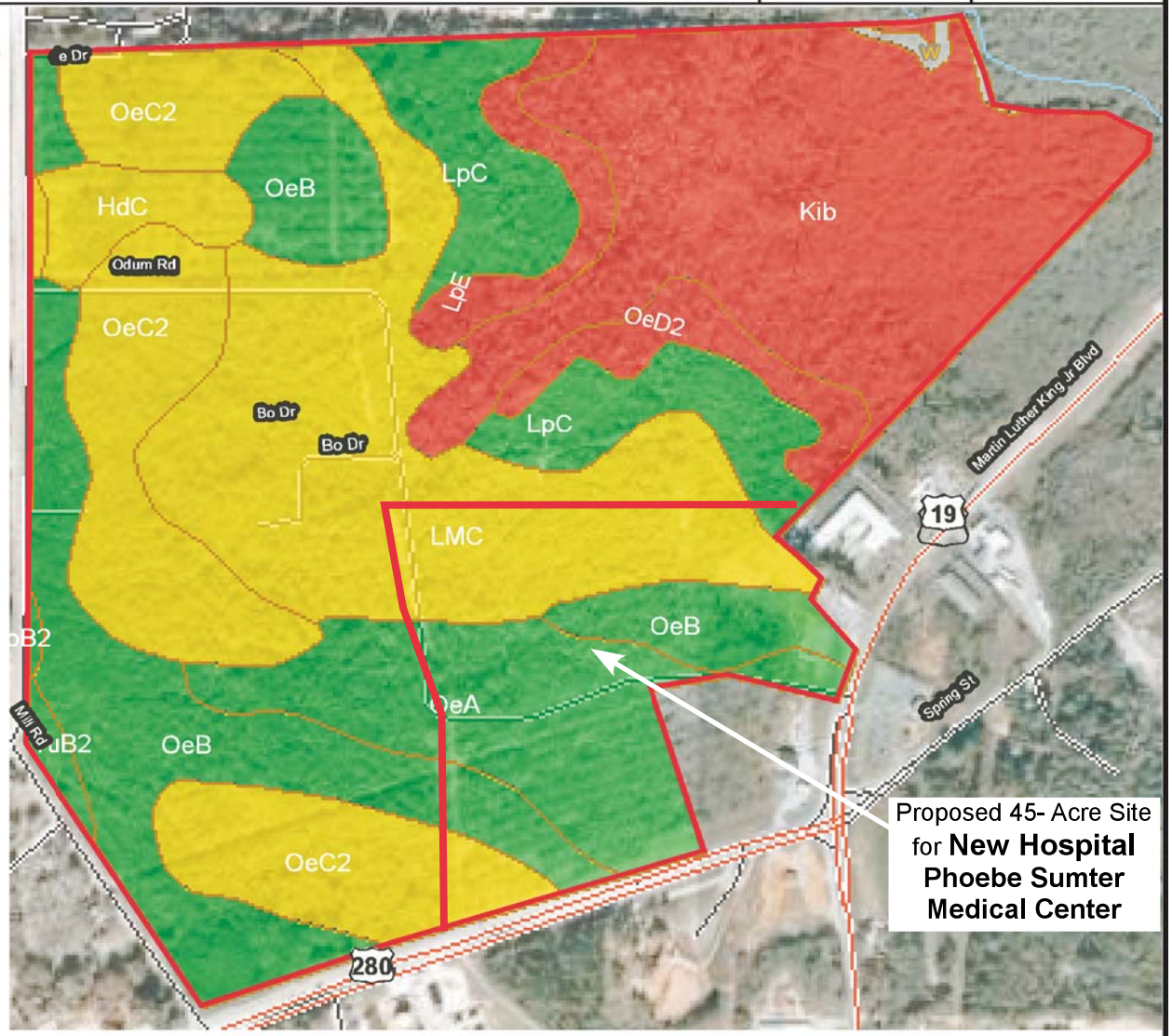
Figure 3-5c: Building Soil Map of 272-Acre Property & Proposed New Hospital Site

APPLICANT:	Sumter Regional Hospital/Phoebe Sumter Medical Center	DATE:	Aug. 2009
FIPS NO.:	261-UJ4LD-00	PW REF. NO.	193

Soil Rating
for Construction of Small Commercial Buildings

- Very Limited
- Somewhat Limited
- Not Limited

Map unit symbol	Map unit name	Rating	Acres in AOI	% of AOI
ArB	Americus loamy sand, 0 to 5 % slopes	Not limited	1.6	0.6
CoB2	Carnegie sandy loam, 2 to 5 % slopes, eroded	Not limited	0.3	0.1
HdC	Henderson cherty sandy loam, 2 to 8 % slopes	Somewhat limited	6.0	2.2
Kib	Kinston and Bibb soils	Very limited	58.6	21.2
LMC	Lucy loamy sand, 5 to 8 % slopes	Somewhat limited	54.6	19.8
LpC	Lakeland sand, 0 to 8 % slopes	Not limited	21.3	7.7
LpE	Lakeland sand, 8 to 17 % slopes	Very limited	6.4	2.3
OeA	Orangeburg loamy sand, 0 to 2 % slopes	Not limited	27.0	9.8
OeB	Orangeburg loamy sand, 2 to 5 % slopes	Not limited	45.7	16.6
OeC2	Orangeburg loamy sand, 5 to 8 % slopes, eroded	Somewhat limited	44.2	16.0
OeD2	Orangeburg loamy sand, 8 to 12 % slopes, eroded	Very limited	7.2	2.6
TuB2	Tifton sandy loam, 2 to 5 % slopes, eroded	Not limited	1.5	0.6
VeC2	Vaucluse loamy sand, 5 to 8 % slopes, eroded	Somewhat limited	0.5	0.2
W	Water	Not rated	1.1	0.2
Totals for Area of Interest			276	100



Map Source: USDA NRCS Web Soil Survey (WSS)
July 2009, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Feet: 0 500 1,000 2,000

Former Hospital Site

The Former Hospital site lies entirely above the 100-year floodplain zone on the east side of Americus.

New Hospital Site

About 30 acres of the 272-acre property are in an "AE" 100-year special flood hazard area (zone), with flood elevations from about 331-feet to 332-feet amsl (Fig. 3-6; FEMA, 2009 Map No. 13261C0134C). Much of flood hazard area coincides with the USACE designated wetlands area. The New Hospital site's 45-acre area is about 600 feet southwest of Muckalee Creek's floodplains and wetlands, and about 2400 feet southwest of Muckalee Creek. The New Hospital site is planned to be at about 410 to 430 feet amsl, or about 80 to 100 feet above the creek's 332-feet amsl 100-year flood elevation. About 60 acres of the 272-acre property's northeastern corner along Muckalee Creek and in designated wetland areas are within the 100-year floodplain.

Presidential Executive Order (EO) 11988 requires Federal agencies to take action to minimize floodplain occupancy and modification. Specifically, EO 11988 prohibits Federal agencies from funding construction in the 100-year floodplain unless there are no practicable alternatives. FEMA's regulations for complying with EO 11988 state that FEMA is prohibited from funding construction in the 500-year floodplain for "critical actions," which includes senior housing (44 CFR Part 9). FEMA applies an 8-Step Decision-Making Process to ensure that it funds projects consistent with EO 11988. By its nature, the NEPA compliance process involves the same basic decision-making process as the 8-Step Decision-Making Process. Therefore, the 8-Step Decision-Making Process has been applied through implementation of the NEPA process, and is documented in this EA.

The City of Americus participates in the National Flood Insurance Program (NFIP) and therefore must adhere to NFIP floodplain management requirements. Regulations necessitate that new construction of residential structures be built with the lowest floor of the structure at an elevation equal to or above the estimated 100-year flood elevation, which is called the base flood elevation (BFE). The City of Americus Floodplain Management Ordinance requires the lowest floor of the structure to be at least 1 foot above the structure site's BFE.

FEDERAL EMERGENCY MANAGEMENT AGENCY

Figure 3-6: Flood Insurance Rate Map (FIRM) - 272-Acre Property & Proposed New Hospital Site

APPLICANT:	Sumter Regional Hospital/Phoebe Sumter Medical Center	DATE:	Aug. 2009
FIPS NO.:	261-UJ4LD-00	PW REF. NO.	193

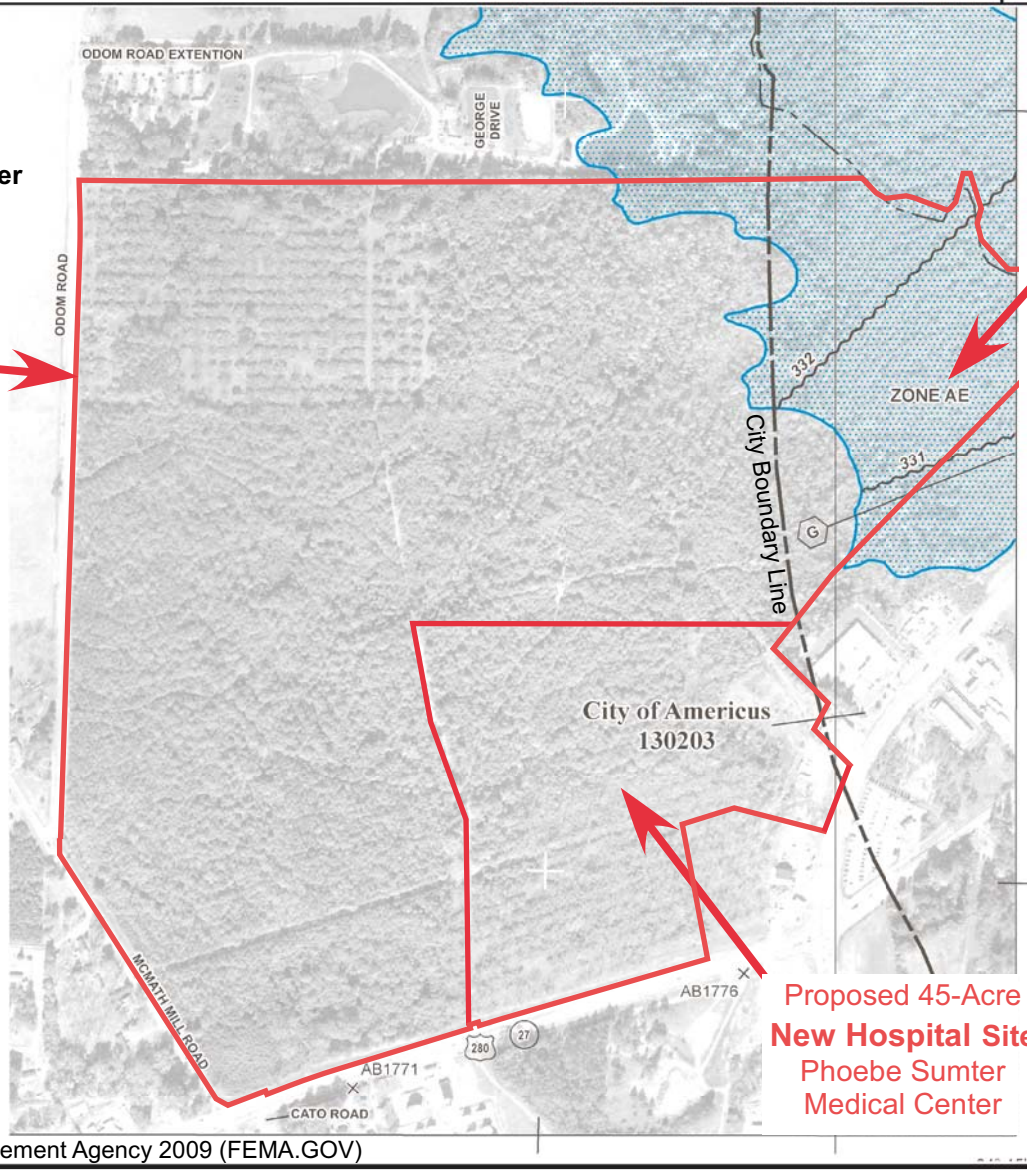
Proposed 45-acre Southeast Corner Hilltop for

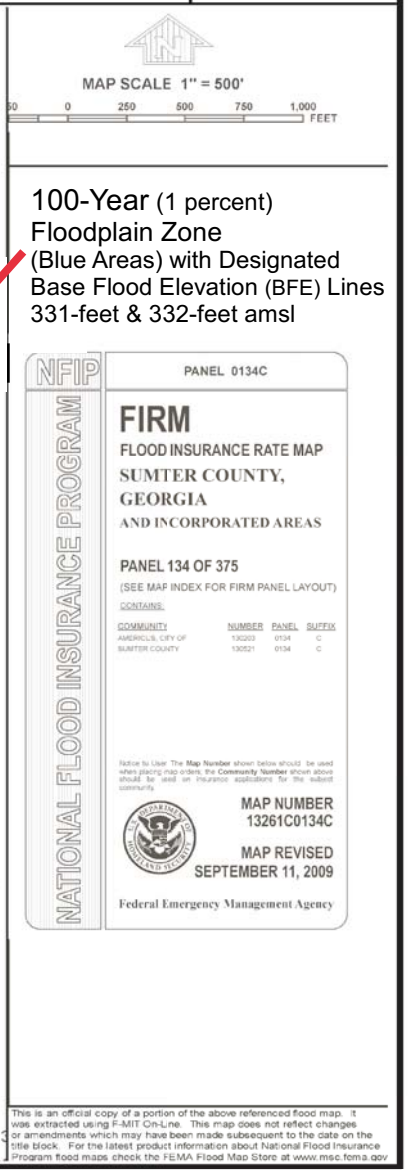
New Hospital Site -
Phoebe Sumter Medical Center

Newly-Purchased 272-Acre Farmland and Wetland Property located 1.3 miles west of Americus city center. Only 45 acres that were just outside City of Americus boundary were annexed & rezoned July 2009 from farmland to hospital use.

Northwest of intersection of U.S. Highways 19 and 280 and several county routes.

Type AE - 100-Year Flood Zone identified along the northeastern portion of the 272-acre property along with designated flood elevation lines. This area is also part of several types of U.S. Army Corps of Engineers designated wetland areas.





Source: Federal Emergency Management Agency 2009 (FEMA.GOV)

3.2 Biological Environment

The following table lists the threatened or endangered species identified by the U.S. Fish and Wildlife Service for Sumter County, Georgia. Since this list was completed in 2004 the Bald Eagle has been delisted as a federally threatened species.

Table 3-4: USFWS Sumter County, Georgia Listed Threatened or Endangered Species				
Listed Species in Sumter County, Georgia (updated May 2004)				
Species	**Federal Status**	**State Status**	**Habitat**	**Threats**
Bird				
Bald eagle *Haliaeetus leucocephalus*	T	E	Inland waterways and estuarine areas in Georgia.	Major factor in initial decline was lowered reproductive success following use of DDT. Current threats include habitat destruction, disturbance at the nest, illegal shooting, electrocution, impact injuries, and lead poisoning.
Red-cockaded woodpecker *Picoides borealis*	E	E	Nest in mature pine with low understory vegetation (<1.5m); forage in pine and pine hardwood stands > 30 years of age, preferably > 10" dbh	Reduction of older age pine stands and to encroachment of hardwood midstory in older age pine stands due to fire suppression
Reptile				
Alligator snapping turtle *Macroclemys temminckii*	No Federal Status	T	Rivers, lakes, and large ponds near stream swamps.	Destruction and modification of habitat and overharvesting.
Barbour's map turtle *Graptemys barbouri*	No Federal Status	T	Restricted to the Apalachicola River and larger tributaries including the Chipola, Chattahoochee, and Flint Rivers in eastern Alabama, western Georgia, and western Florida.	
Gopher tortoise *Gopherus polyphemus*	No Federal Status	T	Well-drained, sandy soils in forest and grassy areas; associated with pine overstory, open understory with grass and forb groundcover, and sunny areas for nesting	Habitat loss and conversion to closed canopy forests. Other threats include mortality on highways and the collection of tortoises for pets.
Invertebrate				
Gulf moccasinshell mussel *Medionidus pencillatus*	E	E	Medium streams to large rivers with slight to moderate current over sand and gravel substrates; may be associated with muddy sand substrates around tree roots	Habitat modification, sedimentation, and water quality degradation

Table 3-4: USFWS Sumter County, Georgia Listed Threatened or Endangered Species				
Listed Species in Sumter County, Georgia (updated May 2004)				
Species	**Federal Status**	**State Status**	**Habitat**	**Threats**
(Continued)				
Oval pigtoe mussel *Pleurobema pyriforme*	E	E	River tributaries and main channels in slow to moderate currents over silty sand, muddy sand, sand, and gravel substrates	Habitat modification, sedimentation, and water quality degradation
Purple bankclimber mussel *Elliptoideus sloatianus*	T	T	Main channels of ACF basin rivers in moderate currents over sand, sand mixed with mud, or gravel substrates	Habitat modification, sedimentation, and water quality degradation
Shiny-rayed pocketbook mussel *Hamiota subangulata*	E	E	Medium creeks to the mainstems of rivers with slow to moderate currents over sandy substrates and associated with rock or clay	Habitat modification, sedimentation, and water quality degradation
Fish				
Bluestripe shiner *Cyprinella callitaenia*	No Federal Status	T	Brownwater streams	
Plant				
Buckthorn *Sideroxylon thornei*	No Federal Status	E	Oak flatwoods where soil normally is saturated for long periods after floods/heavy rain (i.e., calcareous swamps; woods bordering cypress ponds)	
Canby's dropwort *Oxypolis canbyi*	E	E	Peaty muck of shallow cypress ponds, wet pine savannahs, and adjacent sloughs and drainage ditches	Loss or alteration of wetland habitats
Harper Fimbry *Fimbristylis perpusilla*	No Federal Status	E	Muddy bottoms and silty margins of drying pine barren ponds and farm ponds	
Hirst's panic grass *Panicum hirstii*	Candidate Species	E	Small seasonally wet ponds (limestone depression ponds and shallow cypress ponds)	
Parrot pitcher-plant *Sarracenia psittacina*	No Federal Status	T	Acid soils of open bogs, wet savannahs, and low areas in pine flatwoods	

Table 3-4: USFWS Sumter County, Georgia Listed Threatened or Endangered Species				
Listed Species in Sumter County, Georgia (updated May 2004)				
Species	**Federal Status**	**State Status**	**Habitat**	**Threats**
(Continued)				
Sweet pitcher-plant *Sarracenia rubra*	No Federal Status	E	Acid soils of open bogs, sandhill seeps, Atlantic white-cedar swamps , wet savannahs, low areas in pine flatwoods, and along sloughs and ditches	
White trumpet *Sarracenia leucophylla*	No Federal Status	E	Acid soils of open bogs and on sphagnum mats in light gaps along streams and in red maple-blackgum swamps	

Source: USFWS, 2004, Listed Threatened and Endangered Species in Sumter County, Georgia (2009)

3.2.1 Plant Communities and Wildlife

Former Hospital Site

The Former Hospital site is a highly disturbed urban lot. The west half, where the destroyed hospital buildings existed, consists of disturbed or regraded soils along with about 20,000 cubic yards of crushed concrete and highly disturbed "urban soils" associated with the buildings' demolition in two piles. The east half is the former hospital's asphalt-paved parking lot.

272-Acre Property

The 272-acre property is primarily former farmland, now mostly secondary growth woodlands, and about 60 acres of wetlands in the northeastern corner (Section 3.2.3). In December 2008, a partial field biology reconnaissance was conducted on the 272-acre property (TTL, 2009a). Based on review of historical aerial photos of the 272-acre property, about 200 acres outside of wetlands were used for productive farmland for many decades until about mid-1960. During the last 50 or so years, typical mixed hardwood-pine secondary growth woodlands have covered most of the site.

3.2.2 Threatened and Endangered Species

Conclusions – Survey of Threatened or Endangered Species and Habitat

272-Acre Property

The species listed in Table 3-4 were not observed during the field survey of the 272-acre property done in December 2008. Based upon field observations, review of published literature, and database information, it is possible that habitat suitable to support threatened or endangered reptile, fish and invertebrate species may exists along the Muckalee Creek and adjacent floodplain. Since the survey was done in December, some plant species may not have been detected because they were dormant or not growing.

Although habitat exists that may support threatened or endangered species, the areas exhibiting the most potential are within wetlands, especially along Muckalee Creek. These areas are not well suited for development and must be protected during and after project construction. Potential options include, but not limited to well marked construction limits of disturbance, state-approved erosion and sediment control measures.

The listed plant species, based upon their habitat condition requirements and tolerance ranges, naturally exist mostly to entirely within wetlands and other areas with wetland water regimes, and rarely to never naturally exist outside such wet areas (USACE, 1987 and USDA, 2009).

New Hospital Site

The proposed New Hospital site's 45 acres are on higher ground near a hilltop, and entirely on Orangeburg loamy sand soils with high infiltration rates, an area very unlikely support any of these listed plant species. The site was formerly used for farmland up to about 1968. An old unused orchard with pecan trees lies on the south third of the site. The north two-thirds of the site has a secondary growth woodlands, about 41 years old. The New Hospital is planned to be constructed in the middle of the site on top of the hill. No wetlands are located on this 45-acre site, so no species with wetland habitat areas will be affected. The woodlands are young, so it not old enough to satisfy the habitat needs for the Red Cockaded Woodpecker.

Red Cockaded Woodpecker

The only woodpecker to excavate its home in living pine trees, the red-cockaded woodpecker (RCW) (Picoides borealis) was probably a common resident of mature southeastern U.S. pine forests at one time. However, populations of this non-migratory species have drastically declined, and the bird is now listed as endangered under the Endangered Species Act (ESA) because most of its required habitat has been altered through clearing, urbanization, incompatible forestry practices, and lack of periodic fire to maintain the pine stands in an open condition.

Most remaining RCWs exist on public lands such as national forests, national wildlife refuges, and military bases where large tracts of woodland habitat have been maintained in suitable condition. Many of these public land populations are under intensive management in an attempt to increase RCW numbers and recover the species from its endangered status. In Georgia, the largest public land populations are found at Fort Benning, Fort Stewart, Okefenokee National Wildlife Refuge, and Piedmont National Wildlife Refuge/Oconee National Forest/Brender Demonstration Forest.

Some RCWs also remain on private land in Georgia. The Red Hills region of Thomas and Grady counties supports a substantial RCW population. Suitable habitat has been maintained incidentally on adjacent large tracts of private land managed primarily for bobwhite quail.

Most of the other RCWs on private lands, however, belong to small, isolated populations on relict fragments of habitat.

Survey Results - Mature stands of pine species were not observed within the survey area. The RCW habitat descriptions presented in the literature and on State, Federal and academic internet websites was not observed within the corridor reviewed for this survey.

3.2.3 Wetlands

Presidential Executive Order 11990 for wetlands protection requires Federal agencies to take action to minimize wetland loss. The NEPA compliance process requires federal agencies to consider direct and indirect impacts on wetlands that may result from their federally-funded actions. Application of the Eight-Step Decision-Making Process is required to ensure that federally-funded projects are consistent with EO 11990 objectives.

The National Wetlands Inventory was used to identify USACE designated wetlands areas as described below (USFWS. 2009). This information was combined with a recent wetlands delineation survey for the 272-acre property (Lanier, 2008).

Former Hospital Site

The Former Hospital site lies above any designated wetland areas on the east side of Americus.

272-Acre Property

About 30 acres of the 272-acre property's northeastern corner along Muckalee Creek are in PFO1C wetlands (USFWS, 2009). "PFO1C" wetlands are Palustrine Forested Broad-leaved Deciduous Seasonally Flooded wetlands, a somewhat common wetland type along Muckalee Creek. A wetlands survey was done on the 272-acre property in December 2008 (Lanier, 2008). The survey focused on potential wetlands areas near the unnamed intermittent stream/streambed that starts near the property's center and drains northeast into Muckalee Creek. The survey concluded the 272-acre property has a total of about 60 acres of wetlands in its northeast corner, including the approximately 30 acres of PFO1C wetlands (USACE, 1987 and USFWS, 2009). A wetlands map and aerial photo (Fig. 3-7) combine the USACE designated wetlands and recently surveyed wetlands (Lanier, 2008), for a total of about 59.5 acres of wetlands (TTL, 2009b), and the unnamed intermittent streambed's surveyed alignment (Lanier, 2008). The USACE reviewed the recent survey and concluded the 59.5 acres are federally designated wetlands (Appen. B).

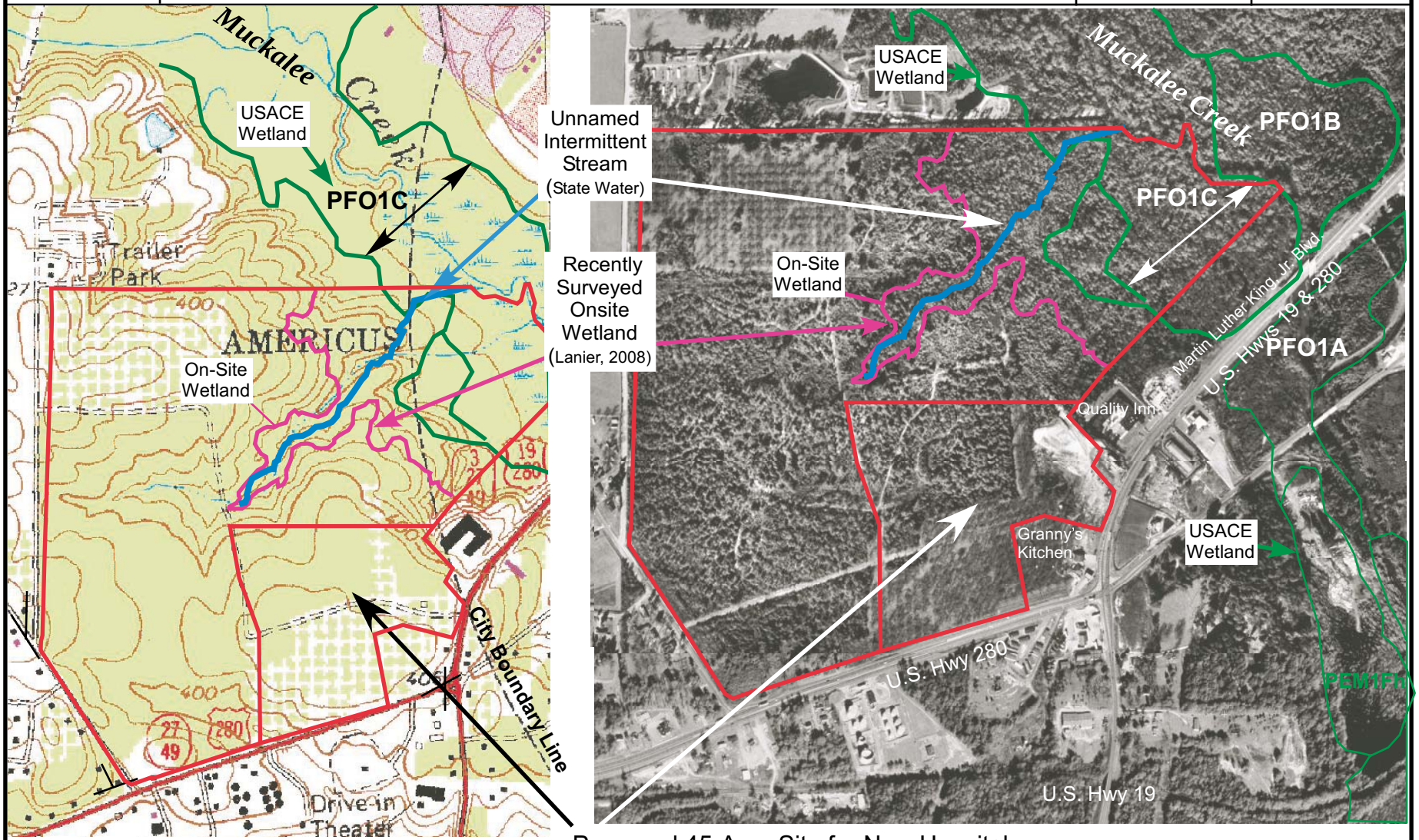
New Hospital Site

The New Hospital site's 45 acres are above identified wetlands areas.

FEDERAL EMERGENCY MANAGEMENT AGENCY

Figure 3-7: Wetlands Map and Aerial Photo - 272-Acre Property & Proposed New Hospital Site

APPLICANT:	Sumter Regional Hospital/Phoebe Sumter Medical Center	DATE:	Aug. 2009
FIPS NO.:	261-UJ4LD-00	PW REF. NO.	193



Proposed 45-Acre Site for New Hospital
Phoebe Sumter Medical Center

Map Source: 1973 (topo.) 1999 (aerial photo)
US Geological Survey Terraserver-USA.com

3.2.4 Survey of Jurisdictional Streams

The U.S. Army Corps of Engineers (USACE) is the federal agency responsible for protecting wetlands and the water quality in streams nationwide. The Georgia EPD is permitted by the USACE, through the Clean Water Act (CWA) to monitor and jurisdiction to enforce federal and state water quality regulations. The following are simple definitions of the common U.S. stream types:

> **Perennial Stream -** A stream that flows in a well-defined channel throughout most of the year under normal climatic conditions.
>
> **lntermittent Stream -** A stream that flows in a well-defined channel during wet seasons of the year but not for the entire year.
>
> **Ephemeral Stream -** A stream that typically has no well defined channel, and which flows only in direct response to precipitation with runoff.

Fig. 3-3 shows a topographic map of the property with a solid "blue line" stream feature for Muckalee Creek as a perennial stream. The unnamed intermittent stream is a dashed "blue line", evident on the 272-acre property from the center of the site and flows northeast as a tributary of Muckalee Creek. These streams are under USACE and Georgia Department of Natural Resources jurisdiction. The recent wetlands delineation on the property also surveyed the alignment of the unnamed intermittent stream (Lanier, 2008).

About 2,255 linear feet of jurisdictional stream exists within the primary reach of the tributary originating within the central part of the site "blue-line" stream (TTL, 2009b). Fourteen additional stream segments are located within the site's jurisdictional wetlands. These features total about 4,270 linear feet of jurisdictional channels. These jurisdictional aquatic features are protected by federal and state laws and regulations.

Based on the fact that the site's intermittent streambed starts at an elevation of 375 feet amsl, the estimated depth to groundwater below the proposed new hospital site (about 410 to 430 feet amsl) is usually from about 25 to about 35 feet below the ground surface. The groundwater flow direction is likely towards the northeast to Muckalee Creek.

3.3 Human Environment

3.3.1 Land Use and Zoning

Land Use Around Former Hospital Site

Use of properties around the Former Hospital site is discussed in geographic relation to the site; north, east, south, and west.

North The site is bound to the north-northwest by Oglethorpe Drive and residential properties. East Jefferson Street, which formerly transected the northern part of this property east/west, is now north of the property. Properties along the north side of East Jefferson Street are now occupied by office trailers leased to the SRH Human Resources Department. The 3+/- acre parcel directly to the north along the west side has been developed with a residential structure (Wheatley House) since the 1920s, and is now used for PSMC executive offices.

East The site is bound to the East by Mayo Street. The east adjacent property at the North Mayo Street/East Forsyth Street intersection has a CVS drugstore. Four office trailers, occupied by SRH staff, are stationed within an asphalt-paved parking area just north of the CVS along the east side North Mayo Street. The 80,000 square feet interim hospital building is just east of the SRH office trailers.

South The site is bound to the south by East Forsyth Street. Walgreens and Taco Bell are south of the site, at the East Forsyth Street/North Mayo Street intersection. Reese Street intersects East Forsyth Street just south of the former hospital entrance. A 2-story house and undeveloped lots are along the southeast side of the intersection and a dermatology clinic is along the west side of the intersection.

West The west adjacent property along the north side of East Forsyth Street has a 2,000 square feet dental office. Residential properties are north of the dental office, along the west side of Oglethorpe Avenue.

Review of Former Hospital Site Historic Aerial Photos

Nine (9) aerial photos of the Former Hospital site and surrounding area are available from 1937, 1948, 1953, 1962, 1968, 1972, 1988, 1993, and 2005 (Appen. A).

1937 The site is undeveloped land mostly cleared throughout the central part and wooded around the margins. Properties to the east and south are mostly undeveloped. Residential properties are to the north along the north side of Oglethorpe Avenue.

1948 Four or five structures, all apparently less than 3,000 square feet, are in the site's the northeast area. According to interviews, these structures were likely associated with a former construction company, Americus Engineering and Construction, owned and operated by the former property owner, Mr. Wheatley. A small structure is shown at the property's northwest corner just south of Oglethorpe Avenue. No other structures or improvements were noted on site. Six to eight apparent residential structures are east of the site and four or five small structures are south of the site. Two to three additional residential structures are shown north of the site, along Oglethorpe Avenue.

1953 The Sumter Regional Hospital building is shown on the central and western portions of the site. The building is accessed by a driveway extending north from East Forsyth Street. A parking lot is adjacent to and northeast of the building. The site's northeast section appears wooded and the former construction company structures are scattered throughout this area. Surrounding properties' appearance changed little from the 1948 aerial photo.

1962 The site or surrounding properties changed little from the 1953 aerial photo.

1968 Additional parking area east of the hospital. No other significant changes on the site or surrounding properties were noted from 1962 aerial photo.

1975 Hospital addition was built on its northeast side and additional parking area east of the hospital. Small paved area along the site's northwest margin, just south of Oglethorpe Avenue. Appears to correspond with the former electrical transformer pad area observed during site reconnaissance. The site's northeast part remains mostly wooded and occupied by the former construction company.

1988 No significant changes on the site from the 1974 aerial photo. Increased commercial development on the south and east adjacent properties. A new, large commercial structure is about 200 feet east of the site, and according to interviews, it was occupied by Wal-Mart. Additional commercial structures are at the East Forsyth and Mayo Streets intersection.

1993 No significant changes were noted on the site or surrounding properties from the 1988 aerial photograph.

2005 Asphalt parking lot addition along the hospital building's east side and the site's northeast portion (formerly occupied by the construction company). A large paved parking area and several office trailers are on the east adjacent property and the SRH Healthplex Annex building is slightly further east, within the former Wal-Mart footprint. The current CVS drugstore is also east of the site, at the intersection of Mayo and East Forsyth Streets.

Review of Former Hospital Site Historic Sanborn Fire Insurance Maps

Historic Sanborn fire insurance maps dated 1924, 1948, 1960, and 1963 (Append. A) were reviewed for the Former Hospital site to determine past land uses and/or structures on the site and adjacent properties (TTL, 2009c). Summarized:

1924 A house and a small out-building are shown at the southeast corner of the subject property at the intersection of East Forsyth Street and North Mayo Street. A general storage building, about 2,000 square feet area, is shown along the northern property margin just south of Oglethorpe Avenue. A small store is shown north of the subject

property at the intersection of Oglethorpe and East Jefferson Street. All other surrounding properties are shown to be residential.

1948 The house and a small out-building are no longer appear in the site southeast corner. A symbol representing a gas tank is shown at the southeast corner of the storage building north-center of this site along Oglethorpe Avenue. Three other storage buildings are shown on the northeast portion of the subject property. A store with a gas tank symbol is shown on the east adjacent property at the northeast corner of East Forsyth Street and North Mayo Street. No other changes were noted from the previous map.

1960 The Sumter Regional Hospital building is shown within the west-central portion of the subject property. The western portion of the building is one story and the eastern portion is shown to be three-story. A laundry room is shown within the northern portion and a parking area is shown directly north of the building. An air-conditioning plant is shown within the northern portion of the building. No UST symbols were noted around the hospital building. Two stores are shown on properties adjacent to the south. No other significant changes were noted from the previous map.

1963 No significant changes were noted in the 1963 map from the previous map reviewed. Sanborn maps dated 1948, 1960, and 1963 show a gas tank symbol adjacent to a former storage building on the north-central portion of the subject property. The tank was likely associated with the former construction company owned and operated by the former property owner, Mr. Wheatley. The 1963 map shows the gas tank with a line crossing through it, suggesting it no longer existed or missing. A nearby small building to the west of the tank about 50 feet is also lined out reflecting it also is missing.

Land Use Around New Hospital Site

Use of properties around the new Hospital site is discussed in geographic relation to the site; north, east, south, and west.

North Property north of the 272-acre property is owned by the Odum Family. Access to this property is off Odum Road on the northwest along the west side of the 272-acre property. The Odum property is used residentially and for aquaculture, i.e. catfish farm.

East Muckalee Creek is on the 272-acre property's northeast boundary. Properties east of Muckalee Creek are privately owned and generally undeveloped and wooded. A broad floodplain wetland is along on the east side of Muckalee Creek. Further east, about 1000 feet from the site, a residential area extends along Westside Drive.

South Commercial and retail land use is present along the southeast boundary of the site at the intersection of US280 and US19. In the immediate northwest corner of this

intersection is an Exxon gasoline station. North of the gasoline station is Granny's Kitchen, a restaurant; and, further north is an undeveloped parcel of land. A section of the subject site fronts US280/19 here and is currently leased by Alexander Construction Company as a construction field office for road work underway on US19 south of Americus. Alexander Construction Company currently has two office trailers on-site, along with a small barn and one aboveground storage tank containing diesel fuel. This leased area is adjacent to the Waffle House restaurant (not a part of 272-acre property). Northeast of the Waffle House restaurant is a Quality Inn hotel, and northeast of the Quality Inn hotel is a used car lot. On the southeast side of US19, in the northeast corner of the intersection with US280 is an abandoned Carl Gregory car sales office and lot. South of this property, on the south side of US280 is an approximately 3-acre garden. In the southwest corner of the intersection of US19 and US280 is a construction site and Fox International Company, Inc., tractor sales.

Directly south of the subject parcel of land, across US280, is a TransMontaigne petroleum fuel storage terminal. This facility is also referred to as Southeast Terminal.

West West of the site is northwest-trending McMath Mill Road, which intersects US280. Odum Road splits north off McMath Mill Road about 0.25 miles north of the US280/ McMath Mill Road intersection. Properties along these roads are undeveloped, residential, or agricultural.

Review of 272-Acre Property Historic Aerial Photos

Nine (9) aerial photographs of the 272-acre property and surrounding areas are from 1937, 1941, 1948, 1953, 1962, 1968, 1972, 1988 and 2005 (Appen. A).

1937 through 1953 - aerial photographs show the property in mostly agricultural. Pecan orchards are in the property's southeast and northwest corners. A farmstead is in the property's southeast corner north of an orchard. A second farmstead is near the northeast corner of McMath Mill Road and US280. A single building or barn is present near the center of the property. Heavily wooded "wetlands" are evident along Muckalee Creek, and along the unnamed tributary draining northeast to Muckalee Creek from the center of the site. Surrounding properties appear undeveloped and wooded, or in use agriculturally.

1962 - the property has a "young" stand of planted trees throughout the areas that were formerly in use agriculturally. A mature pecan orchard is in the site's southeast corner, farmsteads are visible, along with a "barn" near the site's center. Land uses around the site show little change.

1968 through 2005 - the property appears much as it is today. Planted pines are in many areas that are not orchard or wetlands. Most surrounding land uses appear little

changed until the 1972 image, when the Quality Inn hotel is apparent. Other commercial development is evident in later years, near US19/US280 intersection.

Review of New Hospital Site Historic Aerial Photos

Nine (9) aerial photographs of the 45-acre New Hospital site are from 1937, 1941, 1948, 1953, 1962, 1968, 1972, 1988 and 2005 (Appen. A).

The pecan orchard located on the south third of the site was evident in historical aerial photographs over 71 years, from 1937 to present. It does not appear the orchard has been used over the last 20 years.

Farming was conducted on the north two-thirds of the site from 1937 up to the mid-1960s. The 1968 aerial photograph and later photographs show the site was not used for farming and the area reverted to secondary growth woodlands over the last 41 years.

272-Acre Property General Setting

The 272-acre property is on a knoll top, a geographically high point, with nearby stream tributaries flowing away to the east, southeast (south of US280), west, and northwest. The property is wooded with old pecan orchards located in the northwest and southeast corners. Unimproved roads or trails transect the property from north to south and from west to east. Access to the interior of the property is via these trails. In general, the property slopes from a point in the southeast corner, to the south-southwest in the direction of an unnamed intermittent stream tributary of Muckalee Creek (south of US280), and toward the east-northeast in the direction of Muckalee Creek. The northeast corner of the property is largely comprised of floodplain of Muckalee Creek. Other areas throughout the interior of the property are wooded uplands; and two utility easements transect the property.

New Hospital Site General Setting

The New Hospital site is on the geographically high southeast hill on the 272-acre property. Drainage at the site is radially away from the hilltop. The south third of the site contains a +70 year old pecan orchard. The site's north two thirds area has secondary growth woodlands that are at least 41 years old. The maintained dirt road for the TransMontaigne oil pipeline easement is on the west side of the site. US280 lies to the south. US280/US19 lie to the southeast. Other secondary growth woodlands lie to the northeast and north of the site, beyond which lies Muckalee Creek wetlands and tributary streambeds. The maintained dirt road for the City of Americus water, sewer and natural gas utility easements pass through the site just north of the old pecan orchard.

272-Acre Property Existing Building Observations (Interior)

Two temporary structures, a construction site trailer and a pole-barn storage shed in the site's southeast corner, are leased by Alexander Construction Company as a construction office. The on-site office trailer has temporary office equipment typical of a construction site.

No other buildings are located on the subject property. No buildings are evident on the 45-acre proposed New Hospital site.

3.3.2 Demographics and Housing

The following description of demographics and housing for the City of Americus, Georgia, is from Wikipedia (2009).

> As of the 2000 census, there were 17,013 people, 6,374 households, and 4,149 families residing in the city. The population density was 1,623.1 people per square mile. There were 7,053 housing units at an average density of 672.9 per square mile.
>
> Of 6,374 households, 32.8% had children under age 18 living with them, 34.2% were married couples living together, 27.4% were female single-head of household, and 34.9% were non-families. 29.6% of households were of individuals, 10.5% had someone living alone who were age 65 or over. Mean average household size was 2.52, and mean average family size was 3.14.
>
> The city the population was 28.0% under age 18, 14.1% age 18 to 24, 26.1% age 25 to 44, 18.0% age 45 to 64, and 13.7% age 65 or over. Median age was 30 years. For every 100 females, there were 79.4 males. For every 100 females age 18 and over, there were 70.4 males.
>
> Median city household income was $26,808, and median family income was $32,132. Median income was $27,055 for males and $20,169 for females. Per capita income was $14,168. About 23.4% of families and 27.7% of the total population were below the poverty line, including 44.1% of those under age 18 and 19.8% of those age 65 or over.

Races in Americus (City-Data, 2009):

- African-American (58.3%)
- White Non-Hispanic (38.0%)
- Hispanic (2.5%)
- Other race (0.9%)
- Two or more races (0.7%)
- Native American (0.5%)

The 2000 U.S. census data shows Sumter County and its communities have a disproportionately large segment of households in the lowest of household income levels. The U.S. Department of Housing and Urban Development (HUD) defines low and very low-

income limits, respectively, as at or below 80 percent and at or below 50 percent of median income for an area (HUD, 2009). Sumter County as a whole shows that 17.5% of the households make less than $10,000 annually. Americus has the highest number of households that make less than $10,000 annually with 22%. In 2007 Americus had a median household income of $30,138. The Georgia median household income was $49,136 (City-Data, 2009). The 2008 cost of living index in Americus: 79.0 (low, U.S. average is 100) (City-Data, 2009)

The Sumter County Joint Comprehensive Plan third 5-year update includes a survey of low and moderate income minority neighborhoods in Americus (Sumter, 2009). Neighborhood surveys are done about every 2 years for government grant applications. The neighborhood character has remained essentially the same since the surveys began to be documented in the first county comprehensive plan completed in 1994 (Rigsby, 2009). Fig. 3-8 shows the map from this study outlining the city boundaries, except for part of the southern area with no identified neighborhoods. Shaded areas are outlined which identify the poorer neighborhoods. These are located generally in the north part of the city. The locations of the Former Hospital and the New Hospital are included on the figure. The upper left corner of Fig. 3-8 is a census tract map from the 2000 U.S. census that shows the percent of minority African-Americans in the 5 tracts.

3.3.3 Local Economy and Employment

The City's economy is based primarily on healthcare, higher education institutions, small commercial and industrial enterprises, and local government.

The city government payroll included 159 full-time employees and 14 part-time employees at a total annual cost of $5.1 million for salaries and wages. Sumter County total annual cost is $5.4 million for salaries and wages (City-Data, 2009). Many county employees likely live in Americus and contribute to the local economy.

Americus is hometown for Habitat for Humanity International's international headquarters, Windsor Hotel, Fuller Center for Housing international headquarters, and Glover Foods. Habitat for Humanity a non-profit organization dedicated to eliminating substandard housing around the world is well known for providing housing opportunities for low-income families. It is now one of the top ten homebuilders in the country. In 2009 Home Depot pledged $30 million over the next five years to ensure that 5,000 new homes built by Habitat for Humanity will comply with environmental initiatives such as "Energy Star" and "LEED" (Habitat, 2009). This may attract modern "green" building designers to work for and with Habitat for Humanity in Americus.

The healthcare industry is a major employer for the City of Americus and Sumter County. This includes the Sumter Regional Hospital/Phoebe Sumter Medical Center and associated healthcare businesses. As of August 2009, SRH has a roster of 134 physicians available and

FEDERAL EMERGENCY MANAGEMENT AGENCY

Figure 3-8: Low Income and Minority Areas in Americus, Sumter County, Georgia

APPLICANT:	Sumter Regional Hospital/Phoebe Sumter Medical Center	DATE:	Aug. 2009
FIPS NO.:	261-UJ4LD-00	PW REF. NO.	193

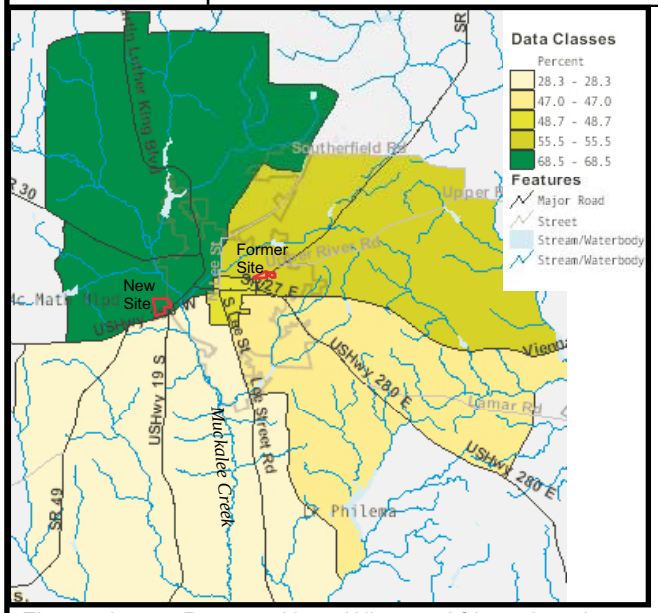
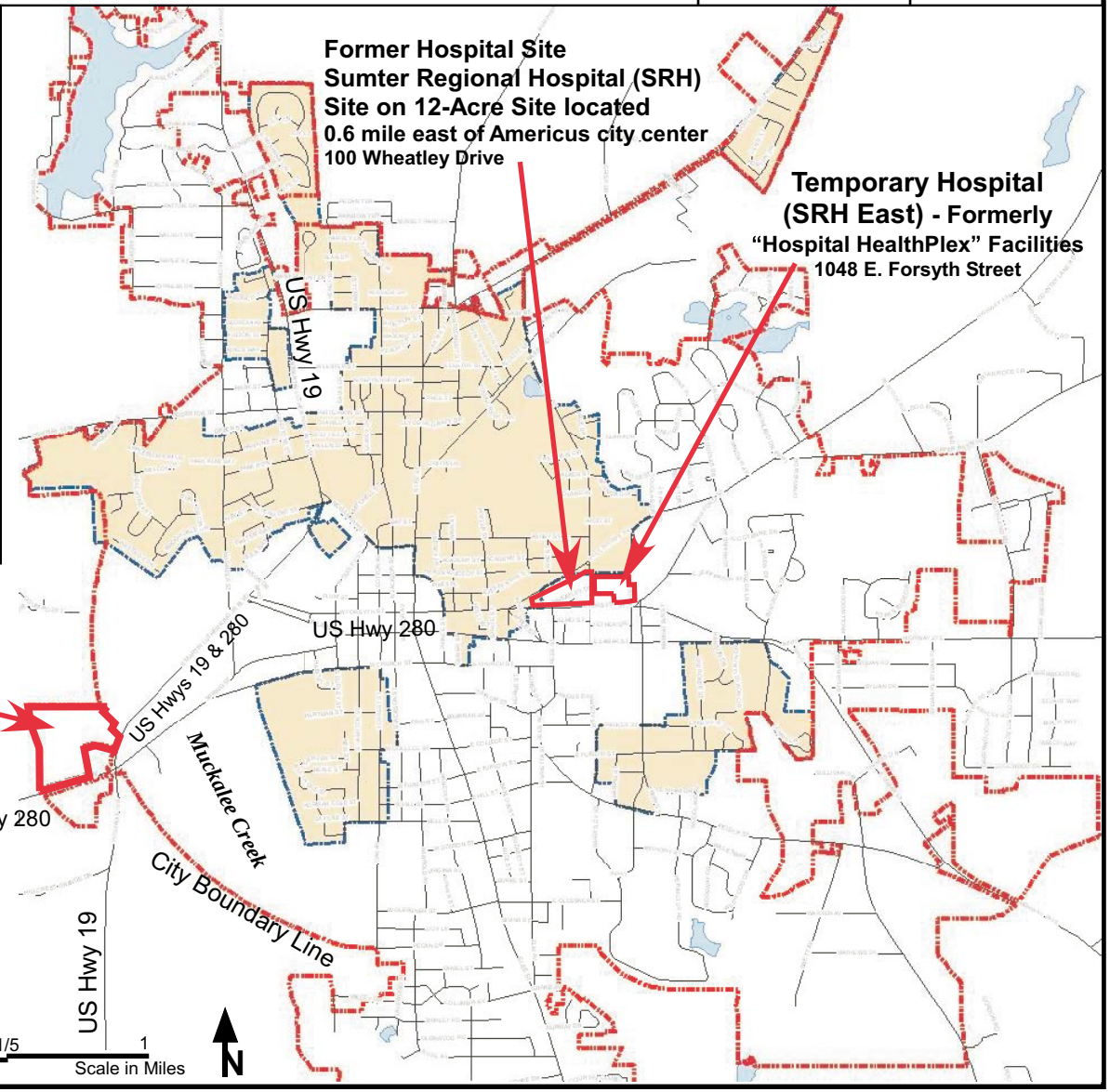


Figure above - Persons Alone Who are African-American Alone by Census Tract 2000 (U.S. Census Bureau)



Proposed 45-acre New Hospital Site (Phoebe Sumter Medical Center)
on Newly-Purchased 272-Acre Farmland Site located 1.3 miles west of Americus City Center.
At intersection of U.S. Highways 19 and 280 and county routes

Explanation

Red-Dashed Line
City of Americus Boundary Line

Blue-Dashed Line with Shaded Areas
Concentration of Low & Moderate Income Minority Areas

Map Source: City of Americus GIS (Butcher, 2009)

credentialed to access use of SRH facilities. The income generated in the community by the physicians alone is estimated at $138 million. This is based on an economic impact survey of a family physician in Georgia estimated to be $1,028,774 per doctor per year (Graham, 2007). This excludes specialty physicians that may have higher economic impacts. This also does not include income to hospitals or to nursing homes.

Higher education institutions in the City of Americus depend upon good local healthcare services being available to attract and retain students, faculty and staff. Noted institutions include the following (City-Data, 2009):

Georgia Southwestern State University – Full-time enrollment 1,967 (offers Master's degree) – 1.5 miles southeast of city center.

South Georgia Technical College – Full-time enrollment 896 – 5 miles northeast of city center.

The City of Americus, compared to Georgia state averages, was compiled by developers of a web site using U.S. Census data and a network of other economic and employment data sources (City-Data.Com, 2009): The following bullets summarize points for the City of Americus, Georgia:

- Median household income **below** state average.
- Median house value **significantly below** state average.
- Black race population percentage **significantly above** state average.
- Hispanic race population percentage **significantly below** state average.
- Median age **below** state average.
- Foreign-born population percentage **significantly below** state average.
- Poverty rate among disabled males: Americus 20 % Georgia 15.4 %
- Disability rate in this city among poor males (it is 24.7% among residents who are not classified as poor): Americus 23 % Georgia 15.4 %
- Poverty rate among disabled females: Americus 33.3 % Georgia 21.4 %
- Disability rate in this city among poor females (it is 24.3% among residents who are not classified as poor): Americus 29 % Georgia 21.4 %
- Renting rate in this city among poor and not poor residents: Americus 74.4 % Georgia 40.3 %

Most common occupations for males (percent)

- Other production occupations including supervisors (7%)

- Material moving workers except laborers and material movers, hand (5%)
- Laborers and material movers, hand (5%)
- Law enforcement workers including supervisors (4%)
- Building and grounds cleaning and maintenance occupations (4%)
- Driver/sales workers and truck drivers (4%)
- Material recording, scheduling, dispatching, and distributing workers (4%)

Most common occupations for females (percent)

- Preschool, kindergarten, elementary and middle school teachers (7%)
- Nursing, psychiatric, and home health aides (5%)
- Building and grounds cleaning and maintenance occupations (5%)
- Cashiers (5%)
- Health technologists and technicians (4%)
- Registered nurses (4%)
- Counselors, social workers, and other community and social service specialists (4%)

The above occupations listed for females reflect the employment opportunities dependent upon the local SRH hospital facilities.

3.3.4 Community Facilities and Services

The Americus Police Department headquarters are on Lee Street near Lamar Street. The headquarters for the Americus Fire Department, Station No. 1, are also on Lee Street near Lamar Street. Station No. 2 is located off Southfield Road near the airport, about 5 miles northeast from the city center. Station No. 3 is located on Crawford road about 1.5 miles northeast of the city center. These stations protect the 11.4 square miles comprising the City of Americus, as well as an additional 160 square miles of unincorporated area through a contract with Sumter County (Americus, 2009).

The temporary hospital, SRH East, comprises the healthcare facilities available to residents of the City of Americus. This hospital facility does not reach the level of healthcare of the SRH Former Hospital. Based on SHR records, the number of inpatient days at the Former Hospital for five months before the March 2007 disaster averaged 1726 per month (Halford, 2009). For six months after the SRH East temporary hospital opened in April 2008, the number of inpatient days averaged 1017, or 59 percent of the use of the Former Hospital.

A review of admission records from before the March 2007 disaster, for the months of January and February 2007, indicate 72 percent of the patients were from Sumter County. A total of 11 percent were from Macon County, 8 percent from Schley County, and the

remaining 9 percent came from Crisp, Dooly, Marion, Stewart and Webster counties (Halford, 2009).

A review of admission records from the month of July 2009 indicate 84 percent of the patients were from Sumter County (Halford, 2009). A total of 5 percent were from Macon County, 3 percent from Schley County, 3 percent from Marion County, and the remaining 5 percent were from Crisp, Dooly, Taylor, Lee and Houston counties. It does appear residents in Sumter County and the surrounding counties are getting their healthcare at other locations. Other hospitals/medical centers near Americus include the following:

- Flint River Community Hospital (about 19 miles; Montezuma, GA)
- Stewart Webster Hospital (about 25 miles; Richland, GA)
- Crisp Regional Hospital (about 27 miles; Cordele, GA)
- Palmyra Medical Center (about 32 miles; Albany, GA)
- Phoebe Putney Memorial Hospital (about 34 miles; Albany, GA)
- Columbus Regional Healthcare System hospitals (about 60 miles, Columbus, GA)
- Medical Center of Central Georgia hospitals (about 75 miles, Macon, GA)

Americus residents who require a range of services or specialty health care needs are likely to go to Phoebe Putney Memorial Hospital, in Albany, or go a greater distance to Macon, where there are more and a broader range services available. Albany is 4.6 and Macon is 6 times larger in population than Americus (U.S. Census, 2009).

Community recreational facilities in the City include a total of 24 small parks and 3 public swimming pools (Butcher, 2009). A map of these facilities show they generally lie between the Former Hospital site and the New Hospital site.

3.3.5 Environmental Justice

Presidential Executive Order 12898 requires Federal agencies to make achieving environmental justice part of their mission by identifying and addressing disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations. EO 12898 also tasks Federal agencies to ensure that public notices about environmental issues are concise, understandable, and readily accessible.

Taken together the Former Hospital site and the New Hospital site within the city boundaries are about equal in relative distance and time to the identified low-income minority neighborhoods. The Former Hospital site lies to the southeast of the main low-income minority neighborhoods within the congested east side of the city with slower traffic and more traffic signals. The New Hospital site lies to the southwest of these neighborhoods where there is faster traffic and fewer traffic signals. On average low-income minority patients in the city using a hospital at either location would drive or be driven by private or public transportation to the site in essentially the same amount of time.

3.3.6 Noise

Noise levels at the Former Hospital site and the New Hospital site are expected to be about the same. The Former Hospital site is next to East Forsyth Street, also known as westbound US280. The New Hospital site is next to US280. Vehicular traffic is the primary noise source for both sites

3.3.7 Visual Resources

The City sights range from a busy small urban community to a quiet rural community rich in vegetation and heritage. The area around the Former Hospital site consists of quite, established neighborhoods, of one-story single-family homes and small commercial businesses. The area around the New Hospital site consists of a quieter rural neighborhood with farming and some moderate-sized commercial and industrial businesses. The planned hospital is to be located within and surrounded by an existing forest.

3.4 Cultural Resources

In addition to NEPA review, consideration of impacts to cultural resources (archaeological and historic sites and structures) are mandated under National Historic Preservation Act (NHPA) Section 106 as implemented under 36 CRF Part 800. Requirements include the need to identify significant historical properties that may be impacted by the proposed action (also known as "undertaking") or alternatives. Historic properties are defined as those listed on or determined eligible for listing on the National Register of Historic Places (NRHP) (36 CFR 60.4).

The Georgia State Historic Preservation Officer (GA SHPO) and FEMA consult to determine site eligibility, and the Keeper of the National Register makes final determinations. GA SHPO and the Advisory Council on Historic Preservation (ACHP) must be consulted on impacts to significant resources and means to mitigate the impact. Consultation procedures and impact mitigation are outlined in the project-specific Programmatic Agreement (PA) signed by FEMA, GA SHPO, and ACHP.

Compliance with NHPA Section 106 will be addressed through the PA execution. The PA serves as guidance for FEMA in their consultation with GA SHPO, ACHP, and other relevant agencies. It addresses potential impacts to historic structures and archaeological sites, and mitigation measures.

3.4.1 Historic Structures

National Register of Historic Places (NRHP)

Review of the NRHP National Register Information System (NRIS) was done to determine if the site was already in the NRHP. The NRHP NRIS is a publicly available database provided

by the Department of Interior, National Park Service at http://nrhp.focus.nps.gov/natreg/docs/Download.html (USDOI, 2009).

Results for Former Hospital Site
Review of the NRHP NRIS indicated the Former Hospital site is not in the NRHP. The nearest NRHP sites are about 1/4 mile west and south of the New Hospital site, in Historic Downtown Americus.

As the Former Hospital was destroyed and the site buildings demolished and cleared, there are now no historical structures on the site.

Results for New Hospital Site
Review of the NRHP NRIS indicated that the subject property is not in the NRHP. The nearest NRHP sites are about 1 mile east of the New Hospital site, in Historic Downtown Americus.

The Phase I Archaeological survey results indicate that the 45-acre New Hospital site has low probability for occurrence of archaeological sites that might be considered eligible for NRHP listing (Perry, 2009 and Appen. C). The single identified archaeological site, Provisional Site 1, was occupied with a small house from about 1937 to 1972, based on aerial photographs. It was not evident on the 1988 photograph.

Based on literature and documents review interpretation and evaluation and field reconnaissance, Provisional Site 1 does not meet the eligibility requirements of any of the criteria for inclusion on the NRHP, per 36 CFR § 60.4. In particular, Criterion D is unlikely to be met due to the modernity of the site occupation, the sparse cultural materials present, and severe disturbance by mechanized clearing in the late 20th century. Therefore, it is recommended that Provisional Site 1 is not eligible for the NRHP.

The 45-acre proposed New Hospital site has low probability for archaeological sites that might be considered eligible for NRHP listing. As a result of late 20th century land management practices, the entire tract appears to have been severely disturbed. During the 19th and early 20th century agricultural uses of the property, upland soils eroded from the subject property to the area to the north and in the late 20th century, when mechanized clearing was done, any remaining cultural deposits were likely disturbed (Perry, 2009).

3.4.2 Archaeology

Georgia Archaeological Site File (GASF)

A GASF review was done to determine if the site had been previously surveyed, or if previously identified sites had been report on the site (Perry, 2009). Since GASF provides all Georgia data for the NADB, the GASF review also constituted a NADB review. The GASF database is restricted to professional archaeologists to protect sensitive known archaeological site information from entering the public domain.

FEDERAL EMERGENCY MANAGEMENT AGENCY

Figure 3-9: Archaeological Survey of Proposed New Hospital Site

APPLICANT:	Sumter Regional Hospital/Phoebe Sumter Medical Center	DATE:	Aug. 2009
FIPS NO.:	261-UJ4LD-00	PW REF. NO.	193

Explanation Archaeological Survey

Perry (2009) Survey - 34-Acres Fieldwork for the Phase I Cultural Resources Reconnaissance was conducted by Robert E. Perry, RPA, Carey B. Oakley, RPA, Richard Abel and David Brown on February 24-26, 2009. Field investigation included pedestrian transects with GPS at about 30 m intervals, observation of exposed ground surfaces and the selective excavation of 50 soil shovel tests, 17 of which yielded cultural materials.

Six isolated occurrences of artifacts were encountered during subsurface testing. Isolated Finds IF-1, IF-2, and IF-6 consisted of one lithic reduction flake in each of three shovel tests. Adjacent shovel tests produced no additional cultural materials. Isolated finds IF-4, IF-5, and IF-6 produced historic-period glass fragments. These isolated finds were located along an old, abandoned field road.

FEMA (2009) Survey - 11-Acres Fieldwork for the Phase I Cultural Resources Reconnaissance was conducted by Paul A. Drummond, ___, on August 17-20, 2009. Field investigation included pedestrian transects at 30 m intervals, observation of exposed ground surfaces and the selective excavation of _ soil shovel tests, of which none yielded cultural materials.

N

0 50 100 200 400

Scale in Feet

Source: Archaeological Survey Information - Perry, 2009 (Excerpted) for 34-Acre Area. FEMA, 2009. Draft Environmental Assessment Report - Appendix C.
Aerial Photo Source: Google Maps (2009)

Results

GASF review indicated that the site had not been part of a previous archaeological survey and no archaeological sites have been recorded within the property boundary. Two archaeological sites were recorded within a 0.5 mile radius of the subject property, from the DOT US19 road widening project's archaeological survey.

Field reconnaissance results include one previously identified historic archaeological/ farmstead site and six isolated finds, single artifacts (Perry 2009). Based on the field reconnaissance observations and literature and documents review, the previously unidentified archaeological/farmstead site's, Provisional Site 1, boundaries were established (Fig. 3-9). The archaeological/farmstead site consists of a small scatter of historic materials from the early 20th century to before 1988. Provisional Site 1 surface features include a small brick pile and domesticated plants.

The 272-acre property was agriculturally abandoned after the 1960s, and was mostly timbered by the late 1980s to early 1990s. Mechanized land clearing in the late 20th century appears to have severely impacted the property's historic integrity.

The land use at the 45-acre New Hospital site did not change since at least before 1968, over 41 years ago. The 1968, 1972, 1988, 1999 to present aerial photos show a continuous regrowth of natural woodland on the north two-thirds of the site. The pecan orchard on the south has been there since 1937, over 72 years.

Phase I Cultural Resources Reconnaissance results indicate the 45-acre proposed New Hospital site has low probability for archaeological sites that might be considered eligible for NRHP listing. The single identified archaeological site, Provisional Site 1, was occupied well no later than 1988.

3.5 Infrastructure

3.5.1 Water Supply

The Americus water is from a set of 11 deep groundwater wells located throughout the city. Older wells pump groundwater found at depths as great as 800 feet. The Georgia DNR Environmental Protection Division (EPD) monitors the operations of the Americus wells and now permits new water supply wells that reach depths of 1800 to 2000 below ground surface. EDP wants to avoid potential shallow groundwater contamination and also to avoid pumping interferences with the local farmers pumping groundwater (Campbell, 2009). Americus has "North" and "South" ground water supply treatment plants for their 11 wells. Treatment only involves removal of iron and addition of chlorine gas as a residual disinfectant.

Former Hospital Site

The City of Americus Public Works Department (DPW) provided water to the site as the local public water supplier. The Americus water is from a set of 11 deep groundwater wells located throughout the city. Older wells pump groundwater found at depths as great as 800 feet. The Georgia DNR Environmental Protection Division (EPD) monitors the operation of the Americus wells and now permits new water supply wells that reach depths of 1800 to 2000 below ground surface. DHS wants to avoid potential shallow groundwater contamination and also to avoid pumping interferences with the local farmers pumping groundwater (Campbell, 2009).

New Hospital Site

The Americus DWP plans to provide water to the hospital site. Americus has an east-west utility easement that passes through the southern third 45-acres hospital site. It contains both a 10-inch diameter water supply transmission pipeline and a force main sewer pipeline, that presently service the Sumter County Jail and law enforcement facilities further west of the New Hospital site.

3.5.2 Wastewater Disposal

Sanitary sewer service is provided by the Americus PWD for nearly all of the developed areas in Americus. Wastewater flows are collected in gravity sewers and conveyed to lift stations which transport the flow to the south treatment plant located 2.5 miles south of Americus along Muckalee Creek.

The Former Hospital site had sewer lines which have been capped after the buildings were demolished. The New Hospital site, as mentioned in Section 3.5.1 regarding water supplies, has an Americus PWD water, sewer and natural gas easement for pipelines that presently service the Sumter County Jail and law enforcement facilities on the west. There is adequate capacity in the utilities to accommodate the needs of the New Hospital (Kendrick, 2009 and Deason, 2009).

3.5.3 Other Public Utilities

Other utilities considered include telephone, electric, and natural gas service. Telephone service is provided to the City of Americus area by Southern Bell or AT&T. Electrical power is provide by Georgia Power. Natural gas service is provided to the community by the City of Americus Natural Gas Services Department (Deason, 2009). These services were cut off to the Former Hospital site following the 2007 disaster and are available at or nearby the proposed New Hospital site. Prior to any site construction, the site will be examined for existing utility lines. If utility lines are found, officials from the utilities should be notified before any ground is disturbed.

3.5.4 Transportation

The City of Americus Transit System includes the use of four on-call vans that can transport passengers around the community at a flat cost of $2.00 per ride. The Americus Community and Economic Development Department manages the Transit System and reported an annual average of 90 rides per day over the last 4 years, 2006 to 2009 (Young, 2009). Two private taxi companies also exist in the city that can transport passengers at a flat cost of $5.00 per ride. Transportation within Americus is done mostly by private vehicles, secondarily by walking. Table 3-5 summarizes the commuting to work statistics compiled by the U.S. Census Bureau (2009). This shows 94.5 percent of the residents typically drive, 3.3 percent walk, and 2.2 percent travel to work by other means.

Table 3-5: Americus, Georgia – Commuting to Work Statistics (2000)

Workers 16 years and over	6,604	Percent
Car, truck, or van -- drove alone	4,990	75.6
Car, truck, or van -- carpooled	1,248	18.9
Public transportation (including taxicab)	23	0.3
Walked	215	3.3
Other means	73	1.1
Worked at home	55	0.8
Mean travel time to work (minutes)	16.0	(X)

Former Hospital Site

The main access to the Former Hospital site and parking areas was through Mayo Street (See Fig. 3-1). A secondary services access road was at the southwest corner of the site on East Forsyth Street. The hospital emergency entrance was north of the hospital along Oglethorpe Street at the intersection of East Jefferson Street. All streets surrounding the site are two-lane, two-way commercial and residential roads, with a speed limit of 25 to 35 miles per hour (mph). East Forsyth Street (part of US280) is a one-way three-lane west-bound road along the south side of the site. It has a speed limit of 35 mph near the Former Hospital and decreases to 25 mph as it passes through historical downtown Americus. Traffic signals are at the two main intersections with access to the site on Mayo Street, on the north at Oglethorpe Street and on the south at East Forsyth Street. A sidewalk exists only along Mayo Street.

New Hospital Site

The New Hospital site is located just north of the intersection of and traffic signal for US19 and US280. At this location both highways have 5 lanes, 2-lanes each direction with a painted median/turning lane, with 55 mph speed limits. US19, also known as N. Martin Luther King, Jr. Blvd., traverses Georgia north-south. US280 generally goes east-west

across the state. Both highways merge from this location northeastward 4000 feet to W. Forsyth Street/W. Lamar Street. There, US19 continues northeast and US280 continues east. There are two traffic signals here, one at the Magnolia Street intersection, and another 300-feet north as US280 becomes a divided road, using West Forsyth Street for west-bound traffic and W. Lamar Street for east-bound traffic through the city center.

The main access to the New Hospital site and parking areas is planned to be through a north-south 4-lane driveway on the south along US280, about 1000 feet west of its intersection with US19 (Fig. 1-7). A new traffic signal is proposed at the main hospital entrance for traffic safety of hospital patients, visitors and staff. A secondary 2-lane access driveway is planned to the hospital parking area on the east, at an entrance off US19, about 500 feet from its intersection with US280. The New Hospital site has plans for sidewalks along the highways.

Traffic control is at a traffic signal at the US19/US280 intersection, near the New Hospital site's southeast corner. Both U.S. Highways merge from this location northeastward 4000 feet up to W. Forsyth Street/W. Lamar Street. Here, US19 continues northeast and US280 continues east. There are two traffic signals near here as US280 becomes a divided road. One signal at Magnolia Street and one located 500 feet further northeast to manage traffic for US280 through the center of Americus, West Forsyth Street west-bound traffic and West Lamar Street east-bound traffic.

Major roadway improvements to US19 are presently being completed by GA DOT. This involves widening the road to 5 lanes, 2-lanes each direction with a painted median/turning lane. In July 2009 new concrete curb and gutter roadway details were completed from the US19/US280 intersection/merge on the north side of the road up to the southeast corner of a used car dealership, located southeast of the 272-acre property. DOT plans to complete construction of a concrete sidewalk from the US19/US280 intersection/merge to the used car dealership driveway. The new north-side highway bridge widening across Muckalee Creek includes a simple 3-feet high concrete barrier/rail and is not designed for a sidewalk. The south side of the highway bridge presently has the older/original sidewalk and rail across Muckalee Creek.

The City plans to build a new sidewalk along the N. Martin Luther King, Jr. Blvd. easement, towards the New Hospital site. Following present GA DOT work, it will tie in with the city existing sidewalk network that now end at the intersections of W. Forsyth Street/W. Lamar Street and N. Martin Luther King Jr. Blvd.

The New Hospital site is further than the Former Hospital site, respectively, 1.3 miles versus 0.6 mile, from the city center. However, the time needed to get to each site is about the same, because the city's east side has more traffic signals and slower traffic speeds than those on the city's west side.

Emergency transportation arrangements have been made for the new hospital site in case the US19/US280 bridge is impassable, damaged, or destroyed because of flooding, a vehicle accident, or other event. Specifically, the first alternative transportation route is the Church Street/Spring Street Muckalee Creek bridge, located 1000 feet south/downstream of and parallel to the US19/US280 bridge. The second alternative route is the Georgia State Route 30 Muckalee Creek bridge, located 5000 feet north/upstream. It is anticipated the potentially damaged 300-foot span of the key regional US19/US280 bridge crossing Muckalee Creek would be repaired quickly as a high priority federal highway construction project following a flooding event.

3.6 Hazardous Waste and Materials

A Phase I Environmental Site Assessment (ESA) was conducted at the Former Hospital site and the New Hospital site by qualified environmental scientists (TTL, 2009b and 2009c). The objective of an ESA is to assess the presence of recognized environmental conditions that may exist as a result of past or present uses of the properties within the five proposed areas. The American Society for Testing and Materials (ASTM) Standard E-1527-05 defines a recognized environmental condition (REC) as:

> …the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structure on the property or into the ground, groundwater or surface water of the property.

Findings are based on information obtained through Federal and state databases, interview, and site reconnaissance.

3.6.1 Site Reconnaissance

Site reconnaissance was conducted on the Former Hospital site and the 272-acre property. Following the March 1, 2007 tornado disaster event, all of the Former Hospital damaged buildings were demolished and cleared from the site. Presently, the asphalt parking lot on the east side of the 12.5 acre property remains intact, with about 20,000 cubic yards of crushed concrete debris and gravel in two piles remaining near the middle of the regraded west side of the property.

The 272-acre property is presently characterized as a former farmland with a forest that has regrown over the last 50 years. As described above a couple of cleared dirt roads cross the 272-acre property as underground pipeline easements for private and public utilities. The north-south cleared dirt road easement is for crude oil to the TransMontaigne fuel storage facility south of the property. The east-west cleared dirt road easement is for the City of Americus water, sewer and natural gas pipelines that lead out to the Sumter County Jail and law enforcement facilities west of the property.

3.6.2 Former Hospital Site Conditions

EPA National Priorities List (NPL)
The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) established the Environmental Protection Agency (EPA) National Priorities List (NPL) of federal "superfund" sites. These are the contaminated sites that have been assigned a high ranking, in terms of potential public health effects, by the EPA. The EDR report indicates that:

> The subject site is not identified on the EPA NPL List.
>
> There were no facilities identified on the NPL within the AMSD of one mile of the subject property.

EPA Delisted National Priorities List (Delisted NPL)
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) established the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate. The EDR report reviewed indicates that:

> The subject site does not appear on the **Delisted** NPL.
>
> There were no facilities identified on the Delisted NPL within the AMSD of one-half mile of the subject property.

EPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) List
The EPA Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) List identifies documented and suspected contamination sites throughout the nation which were not ranked high enough to be listed on the **NPL.** The EDR report indicates that:

> The subject site does not appear on the CERCLlS List.
>
> There were no facilities identified on the CERCLIS List within the AMSD of one-half mile of the subject property.

CERCLIS No Further Remedial Action Planned (NFRAP) List
The CERCLIS-NFRAP is a listing of sites designated "No Further Remedial Action Planned" which have been removed from CERCLIS List. NFRAP sites may be sites where, after an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious

enough to require Federal Superfund action or NPL consideration. The EDR report indicates that:

> The subject site does not appear on the CERCLIS-NFRAP List.
>
> There were no facilities identified on the CERCLIS-NFRAP List within the AMSD of one-half mile of the subject property.

Federal RCRA Corrective Action Report (CORRACTS) Facilities List
RCRA is the EPA database of facilities that generate, transport, treat, store, and/or dispose of hazardous wastes as defined by the Resource Conservation and Recovery Act. CORRACTS identifies hazardous waste handlers with RCRA corrective action activity. The EDR report indicates that:

> The subject site does not appear on the RCW-CORFIACTS Facilities List.
>
> There were no facilities identified on the RCRA-CORRACTS List within the AMSD of one mile of the subject property.

EPA Resource Conservation & Recovery Act Information (RCRA) List
RCRA is the EPA database of facilities that generate, transport, treat, store, and/or dispose of hazardous wastes as defined by the Resource Conservation and Recovery Act (RCRA), Generators and transporters are found on the RCRA List of Generators/Notifiers. Conditionally Exempt Small Quantity Generators (CE-SQGs) generate less than 100 kilograms (kg) of hazardous waste, or less than I kg of acutely hazardous waste per month. Small Quantity Generators (SQGs) generate between 100 and 1,000 kg of hazardous waste per month. Non-Generators (Non-GEN) do not presently generate hazardous waste. Large Quantity Generators (LQGs) generate over 1,000 kg of hazardous waste, or over l kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste off-site from the generator. This waste is transported to a Treatment, Storage, or Disposal Facility (TSDF).

The ASTM standard states that the AMSD for SQGs, LQGs, and Non-GEN facilities is for the subject property and/or adjoining properties only. The ASTM standard defines an adjoining property as:

> "…any real property or properties the border of which is contiguous or partially contiguous with that of the property, or that would be contiguous or partially contiguous with that of the property but for a street, road, or other public thoroughfare separating them. "

Conditionally Exempt - Small Quantity Generators (CE-SQG)

> The subject site does not appear on the RCRA- CE-SQG List facilities List.

There were no facilities identified on the RCRA- CE-SQG List within the AMSD of 0.25-mile of the subject property.

Small Quantify Generators (SQG)

The Sumter Regional Hospital, formerly located on the subject property, is listed in EDR regulatory records as a RCRA-SQG site. Our review of the SQG listing information reveals that spent halogenated solvents were generated at the facility. A compliance visit was conducted on April 29, 2005 and no violations were reported. No reports of spills, releases, or violations otherwise were reported at the hospital. There were no facilities identified on the RCRA- SQG List within the AMSD of 0.25-mile of the subject property.

Large Quantity Generators (LQG)

The subject site does not appear on the RCRA-LQG List.

No facilities were identified on the RCRA-LQG List within the AMSD of 0.25-mile of the subject property.

Non-Generators (Non-GEN)

The subject site does not appear on the RCRA Non-GEN List.

Three (3) facilities were identified on the RCRA Non-GEN List within the AMSD of 0.25-mile of the subject property. However, none of the identified facilities are located contiguous to the subject property and no violations were reported at any of the RCRA Non-GEN facilities.

U.S. Institutional Control (USIC) List

The USIC List is a listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of institutional controls. The ASTM standard states that the AMSD for the USIC List is limited to the subject property only. The EDR report indicates that:

The subject property does not appear on the USIC List.

State Landfill List

The Georgia Environmental Protection Division (EPD) maintains a list of active and inactive landfills, artificial fills, and disposal sites. However, it should be noted that the Georgia EPD Landfill List does not include unpermitted landfills or dumps. The EDR report indicates that:

The subject site does not appear on the Landfill List.

There were no facilities identified on the State Landfill List within the AMSD of 0.50-mile of the subject property.

State Hazardous Waste Sites (SHWS) List

The Georgia State Hazardous Waste Sites (SHWS) List is equivalent to the Federal CERCLIS List and is maintained by the Georgia EPD. The EDR report indicates that:

The subject property does not appear on the SHWS List.

One SHWS listing, identified as the 304 North Dudley Street site, located greater than 0.50-mile west of the subject property. Due to the distance removed from the subject property and intervening topographic features, this SHWS listing is not considered to represent a recognized environmental condition likely to adversely impact the subject property.

State Leaking Underground Storage Tank (LUST) List

The Georgia EPD maintains a list of sites with reported Leaking Underground Storage Tanks (LUSTS) located within the state of Georgia. This list documents Underground Storage Tank (UST) systems that have reported releases of UST contents.

Based on review of physical location information for each of the LUST sites noted on the EDR report, one of the identified LUST sites is located within the limits of the subject property. The site, identified as Americus Engineering and Construction (AEC) (Facility 1.D. 09129003), was formerly located at the northeast portion of the Former Hospital site. According to interviews, the AEC site was formerly owned and operated by the former owner of the subject property, Mr. Charles Wheatley Sr. Based on regulatory information reviewed, on December 4, of 1991 the Georgia EPD was notified of removal activities for a 500-gallon UST and a 2,000-gallon UST at the former construction company site. On December 9, 1991 a release was reported to the Georgia EPD. A closure report prepared and submitted to EPD in early 1992.

On September 9, 1997, while performing site grading for the hospital building expansion project, east of the main hospital building, areas of petroleum-contaminated soil were found. The contaminated soil areas were found within the footprint of the former construction company site. On September 10 & 11, Geosciences, Inc. performed a test pit exploration and sampled soils based on field screening activities. Two (2) areas of soil contamination were identified and Geosciences personnel monitored the excavation and stockpiling of contaminated soil. Stockpiled soils were sampled and tested by Geosciences to determine if the soil material was hazardous or non-hazardous prior to disposal. All stockpiled soil (1,000 tons) was disposed as contaminated non-hazardous waste at ReNew Earth Recovery

Systems in Macon on Sept 15-18, 1997. The scope of work did not include evaluation of the extent of contaminated soils outside the footprint of the proposed excavation. Based on discussions with Scott Frazier of EPD, confirmation sampling of excavation bottom and sidewalls was not required (TTL, 2009c). Following a technical review of the report, a "no further action" (NFA) letter was issued for the site by the EPD on July 31 1998. Interviews with EPD confirm the information presented by EDR. A copy of the "no further action" letter is included in Appendix B.

A total of seven fuel storage tanks were identified by records and interviews to have been located on the Former Hospital site (Fig. 3-10).

Tank 1 - AEC Gasoline tank – first noted on 1948 Sanborn map next to a one-story general storage building likely associated with AEC activities. The building existed at north-center of site since at least 1924. On 1963 Sanborn map the tank has a line drawn through it indicating it was removed or abandoned in place. During excavation for the hospital building expansion in 1997 this tank was not discovered (Wisham, 2009). This suggests it was removed from this location between 1960 and 1963. It is unknown if this tank contributed to the contaminated soils discovered during the 1997 excavation. This tank represents a historic recognized environmental condition (REC).

Tanks 2 & 3- AEC Diesel tanks – two tanks with capacities of 500 and 2000 gallons which were removed in December 1991. A release was reported to EPD on December 9, 1991 and a closure report prepared early in 1992. On July 31, 1998, a “no further action” (NFA) letter was issued for the AEC LUST site. The approximate location of these two tanks is identified on Fig. 3-10 at the east-northeast edge of the 1997 excavation for the hospital building expansion (Wisham, 2009). As stated above a total of 1,000 tons of diesel-contaminated non-hazardous waste soils were removed for treatment and disposal off site. Based on witness field observations, the approximate lateral extent of the contaminated soil found is shown on this figure covering about 50 percent of the excavation area on the northeast. These tanks and related contaminated soils represent a historic recognized environmental condition (REC).

Tank 4 - SRH No. 2 Diesel 3,000 gallon tank for the hospital emergency generator, located near the hospital emergency room entrance along Oglethorpe Street near E. Jefferson Street, was filled with concrete in 1998. It was replaced with a 6,000 gallon tank as an upgrade to capacity for emergency generator needs that included the 1998 hospital building addition. The 3,000 gallon tank filled with concrete was excavated and removed from the site February 2008, as part of the site demolition activities following the March 2007 disaster (Wisham, 2009).

FEDERAL EMERGENCY MANAGEMENT AGENCY

Figure 3-10: Hazardous Waste and Materials Related to Former Hospital Site

APPLICANT:	**Sumter Regional Hospital/Phoebe Sumter Medical Center**	DATE:	**Aug. 2009**
FIPS NO.:	**261-UJ4LD-00**	PW REF. NO.	**193**

Former-Destroyed Sumter Regional Hospital (SRH) Site on 12-Acre Site located
0.6 mile east of Americus city center
100 Wheatley Drive

1998 - 10,000 gal tank for No. 5 heating oil removed & replaced with 15,000 gal dbl-wall tank. 3,000 gal tank for No. 2 diesel for emergency generator abandoned in place & replaced with 6,000 gal dbl-wall tank to accomodate new building expansion (Wisham, 2009).
February 2008 - the 3 known 15,000, 6,000 & 3,000 tanks were removed. The 3,000 tank filled with concrete in 1998 was also removed.

In **1997**, 1000 tons of soil were removed and segregated during new building basement excavation, analyzed as diesel-contaminated non-hazardous waste, and taken to Macon, GA site for disposal or treatment. Proximity of 3 old fuel tanks noted at northwest and east likely related to soil contamination (TTL, 2009c).

Gasoline Fuel Tank noted on **1948** Sanborn Map.
1963 Map noted Tank & Building on west scratched out on map. (Possibly removed or abandoned in place before 1963.)

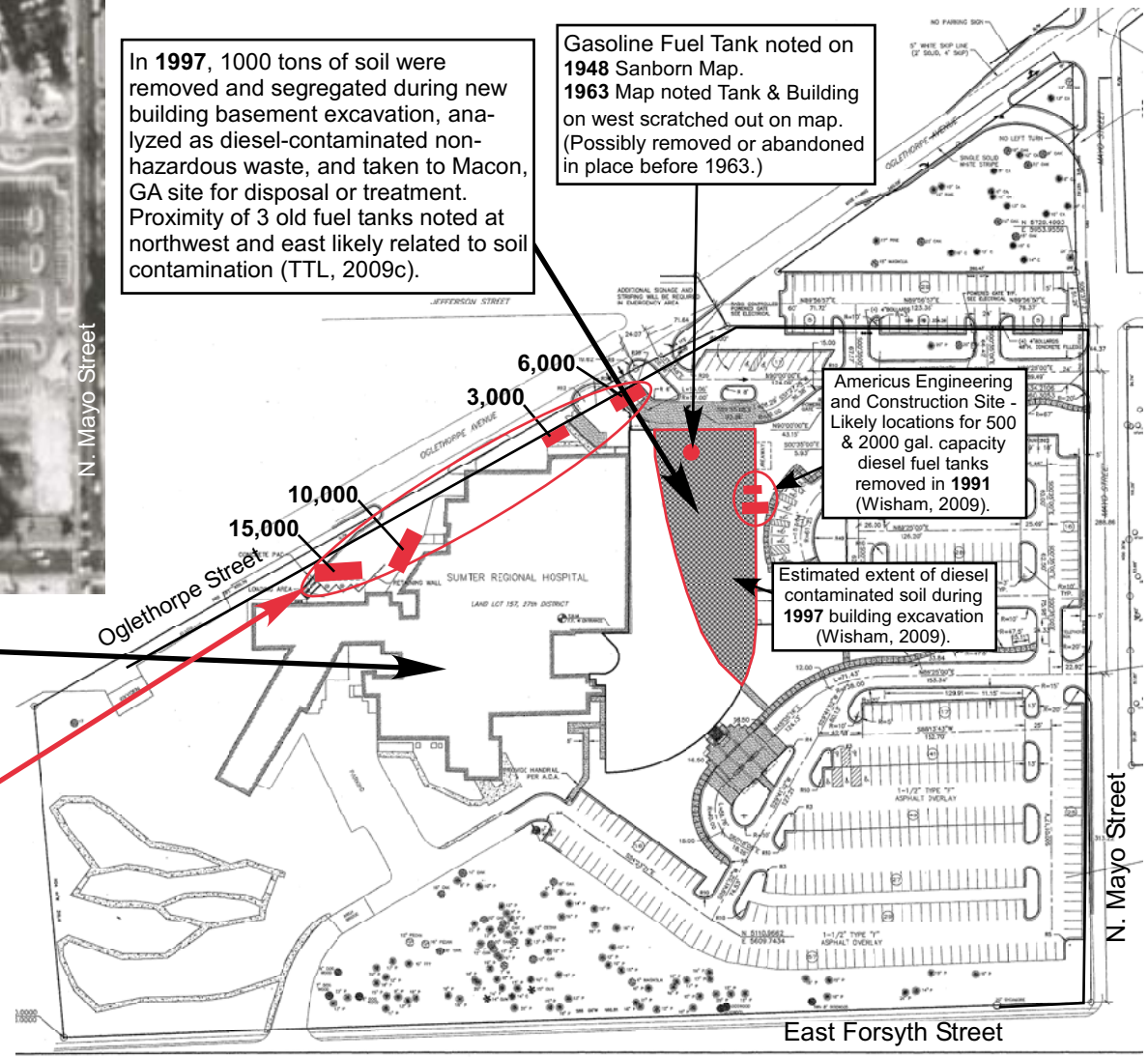


Photo Source: 1999 (aerial photo)
US Geological Survey Terraserver-USA.com

Map Source: Stevens & Wilkinson of Georgia, Inc. (1997) Site / Staking Plan for Expansion & Renovation Project for Sumter Regional Hospital

0 50 100 200
Scale in Feet

Tank 5 - SRH No. 2 Diesel 6,000 gallon replacement tank for upgraded hospital emergency generator, located along Oglethorpe Street about 50 feet northeast of the former 3,000 gallon tank filled with concrete in 1998 (Wisham, 2009). This tank was excavated and removed from the site February 2008, through site demolition activities (Wisham, 2009).

Tank 6 - SRH No. 5 Heating Oil 10,000 gallon tank for the hospital boiler, located along Oglethorpe Street on east side of the hospital loading docks (Wisham, 2009). It was removed in 1998 and replaced with a larger double-walled tank in compliance with UST regulations.

Tank 7 - SRH No. 5 Heating Oil 15,000 gallon tank for hospital boiler, located on the west side of the hospital loading docks along Oglethorpe Street, about 50 feet west of the location of the 10,000 gallon heating oil tank that was removed from the site. This tank was excavated and removed from the site February 2008, through site demolition activities (Wisham, 2009).

The AEC Tanks 1, 2 and 3, although they are gone from the Former Hospital site, the contaminated soils evident from one to all three of these tanks in the 1997 excavation for the hospital building expansion remain as RECs. The extent of soil contamination and type of contamination, whether from diesel or gasoline or both, should be investigated further to define and potentially remediate the soil and possible groundwater contamination.

SRH Tanks 4, 5, 6 and 7 were removed from the Former Hospital site through demolition activities following the March 2007 disaster event. Winter Environmental completed a report that addresses the removal of these tanks in February 2008 (TTL, 2009). A copy of this report has not been available for FEMA review. Therefore, the potential extent of soil contamination related to these four USTs is unknown and remain as RECs.

The following six (6) facilities were identified on the Georgia EPD LUST List within the AMSD of one-half mile of the Former Hospital site.

Table 3-6: LUST Sites Near Former Hospital Site

Site Name	Address	Approximate Distance Relative to Former Hospital Site	Regulatory Status
Patel's Shop Rite	1036 E. Forsyth St.	Southeast-east adjacent	No Further Action (NFA)
Eastside BP	102 Tripp Street	1,200 feet east-southeast	NFA
Eastside Shell Station	US280 & GA49	1,200 feet east-southeast	NFA
Crown No. 138	311 Tripp Street	>1,200 feet southeast	Post Remediation Monitoring
Georgia DOT	1557 E. Lamar Street	>1,200 feet east-southeast	NFA
Goodyear ACS	225 E. Lamar Street	2,500 feet west	NFA

Of the six LUST sites identified within 0.50-mile of the subject property, three are located greater than 0.25-mile east-southeast of the property (Crown, Georgia DOT, and Goodyear). The Georgia DOT and Goodyear sites have been granted NFA status by the Georgia EPD. The third of these sites, Crown No. 138, is in post remediation monitoring. Based on their current regulatory status, distance removed and a review of the area topography, the LUST sites located greater than 0.25-mile from the subject property are not considered to represent a recognized environmental condition likely to adversely impact the subject property.

The LUST sites identified as Eastside BP and Eastside Shell Station, are located approximately 0.25-mile east-southeast of the subject property. Based on review of the USGS topographic map of the area, topographic relief underlying the Eastside BP and Shell LUST sites slopes downward to the east toward an unnamed tributary to Mill Creek. These LUST sites are therefore considered to be located down gradient from the subject property. Each of these sites have also been issued NFA status by the Georgia EPD. For these reasons, these LUST sites are not considered to represent recognized environmental conditions likely to adversely impact the subject property. The remaining LUST site is identified as Patel's Shop Rite which was formerly located at 1036 East Forsyth Street. The 1036 address listing is located at the northeast corner of the Mayo and East Forsyth Street intersection and is currently developed with a CVS pharmacy/drugstore. The subject property is located adjacent to the west of the Patel's Shop Rite LUST site. According to regulatory information presented in the EDR report, a release was reported to EPD in April of 1996, during which time, three USTs were removed. A second release was reported to EPD during the removal of three additional tanks in August of 2006. A no further action status was issued for both releases in 2006. Interviews with EPD regulatory personnel confirmed that NFA status is granted based on confirmatory soil/groundwater sampling. Therefore, based on its current regulatory status, the Patel's Shop Rite LUST site is not considered to represent a recognized environmental condition likely to adversely impact the Former Hospital site.

State Underground Storage Tank (UST) List

The State Underground Storage Tank (UST) List is a listing of underground storage tank systems that are registered with Georgia EPD. The EDR report indicates that:

> The Sumter Regional Hospital is identified in Georgia EPD records as a UST site. Our review of regulatory information presented by EDR reveals that one 10,000-gallon UST was removed from the subject property in January of 1998. Additionally, a 3,000-gallon UST was reportedly abandoned in place at the Sumter Regional Hospital. According to interviews, the 10,000-gallon tank contained #5 fuel oil and was replaced with a 15,000-gallon fiberglass UST in 1998. The 3,000-gallon UST was abandoned in place in 1998, at which time, a 6,000-gallon fiberglass UST was installed as a replacement. No records of releases were reported with 3,000 or 10,000-gallon USTs. Apparently, there are no EPD records for the 15,000 or 6,000-gallon fiberglass tanks.

In addition to the hospital, the former Americus Engineering and Construction Company is listed as a UST site. Records show that a 500-gallon and 2,000-gallon UST were removed from the ground in December of 1991. Both tanks were reportedly constructed of steel and contained diesel. As noted in the previous section, a release was discovered and a NFA status was issued for this site in 1998.

The following seven (7) facilities were identified on the Georgia UST List within the AMSD of 0.25-mile relative to the subject property.

Table 3-7: UST Sites Near Former Hospital Site

Site Name	Address	Approximate Distance Relative to Former Hospital Site
Patel's Shop Rite	1036 E. Forsyth Street	East-southeast adjacent
Charles Wheatley Estate	804 Oglethorpe Avenue	North adjacent
Wayne, Inc.	1043 E. Forsyth Street	1000 feet east-southeast
Depot Car Wash	US280	1000 feet south
Eastside BP	102 Tripp Street	1,200 feet east-southeast
Americus Dist. Operations	1026 E. Lamar Street	1,200 feet southeast
MTD No. 2 Get N Go	506 US280	1,200 feet southwest

Two of the sites, (Patel's Shop Rite and Eastside BP) are discussed in the previous LUST section. The Charles Wheatley Estate is situated at the intersection of Oglethorpe Avenue and Mayo Street. According to EDR regulatory information, one tank was removed on December 3, 1991 with no releases reported. Based on site observations, topography underlying the Wheatley Estate property slopes downward to the north; and therefore, a potential release would not likely impact the subject property. The remaining four UST sites in the table are not located adjacent or contiguous to the subject property and no releases were reported at any of the sites.

State Hazardous Waste Sites (SHWS) List

The Georgia State Hazardous Waste Sites (SHWS) List is equivalent to the Federal CERCLIS List and is maintained by the Georgia EPD. The EDR report indicates that:

The subject property does not appear on the SHWS List.

One SHWS listing, identified as the 304 North Dudley Street site, located greater than 0.50-mile west of the subject property. Due to the distance removed from the subject property and intervening topographic features, this SHWS listing is not considered to represent a recognized environmental condition likely to adversely impact the subject property.

Georgia Non-Hazardous Site Inventory (NON-HSI) List

This list contains property listings that have reported contamination of soil and groundwater under the Georgia Hazardous Site Response Act (HSRA). These sites were not placed on the Georgia Priority list (Hazardous Site Inventory or HSI) because their hazard evaluation

scores did not exceed the threshold levels established for sites posing an imminent threat to health or the environment.

The subject property does not appear on the Georgia NON-HSI List.

There were no facilities identified on the NON-HSI List within the AMSD of one mile of the subject site.

3.6.3 272-Acre Property Conditions

The 272-acre property has a history of agricultural use as evident in aerial images dating back to 1937. Specifically, the majority of the site was in use agriculturally during the earliest period of review, planted with orchards in the northwest and southeast corners before 1937 and the northeast wetlands area have remained unused and wooded throughout the lower elevation areas of the site. Chain of title information does not indicate ownership of the subject tract of land by companies or entities that suggest industrial use of the property. Three farmsteads, or groups of farm buildings, were located onsite and visible in the earliest (1937) aerial image. These farmsteads were located in the southeast, southwest and central areas of the site. Review of historic information has not revealed use in such a manner that would be expected to significantly impact the environmental quality.

Properties surrounding the site are in use for agricultural purposes to the west and northwest, undeveloped wetlands to the northeast, developed for commercial or retail use in the east and southeast, and in use for industrial purposes (fuel storage) to the south. With the exception of bulk fuel storage, no other surrounding land use appears to exhibit the potential to negatively impact the environmental quality of the site to the extent that a recognized environmental concern (REC), as identified by the ASTM Standard E1527-05. Although the nature of bulk fuel storage at TransMontaigne (south of the site) suggests the potential for environmental contamination, and associated impact to the groundwater resource below such a terminal facility. No information was identified that indicate the TransMontaigne terminal has contributed to historic or current degradation of the groundwater resource. Based on reported EPD and EPA investigations, assessment and inspections, that fuels storage at the facility has not resulted in environmental degradation requiring ongoing investigation and remediation. This is evident by exclusion from the EPD HSI database, and inclusion on the EPA CERCLIS NFRAP database.

Septic Tanks/Cesspools
No septic tanks or cesspools during the site reconnaissance (TTL, 2009b). It is possible that abandoned septic system drainfields could exist in the vicinity of one or more of the former farmsteads upon the property. If present, these drainfields would likely have been used for domestic waste disposal only and are not considered a REC. However, should a residential drainfield be identified during site clearing and development, appropriate soils testing to document if hazardous materials exist for proper disposal.

Pits, Ponds, Lagoons and Surface Waters
No pits, ponds, or lagoons were observed during the site reconnaissance (TTL, 2009b). Several streams were observed on-site flowing to the east in the direction of Muckalee Creek.

EPA Comprehensive Environmental Response, Compensation, and Liability lnformation System (CERCLIS) List
The EPA Comprehensive Environmental Response, Compensation, and Liability lnformation System (CERCLIS) List identifies documented and suspected contamination sites throughout the nation which were not ranked high enough to be listed on the NPL. The EDR report indicates that:

> The site does not appear on the CERCLIS List.
>
> There is one facility listed on the CERCLIS List within a one-half mile radius of the site. The TransMontaigne terminal is located south of the site on the south side of US280. This facility is listed on the CERCLIS database according to EDR, however correspondence with EPA personnel reveals that the facility has received No Further Remedial Action Planned (NFRAP) status (TTL, 2009b).

CERCLIS-NFRAP is a listing of sites designated "No Further Remedial Action Planned" which have been removed from CERCLIS. NFRAP sites may be sites where, after an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. The EDR report indicates that:

> The site does not appear on the CERCLIS-NFRAP List.
>
> According to the EDR report there are no facilities listed on the CERCLIS-NFRAP List that adjoin the New Hospital site. However, conversations with EPA personnel reveal that the TransMontaigne terminal, south of the site currently maintains NFRAP status on CERCLIS (TTL, 2009b).

EPA Resource Conservation *8* Recovery Act Information (RCRA) List
RCRA is the EPA database of facilities that generate, transport, treat, store, and/or dispose of hazardous wastes as defined by the Resource Conservation and Recovery Act. Generators and transporters are found on the RCRA List of Generators/Notifiers. Non-Generators (NonGens) do not presently generate hazardous waste. Conditionally exempt small quantity generators (CESQGs) generate less than 1000 kilograms (kg) of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kg of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. The EDR report indicates that:

The site does not appear on the RCRA List.

There are no facilities listed on the RCRA List within a ½ -mile radius of the site.

EPA Emergency Response Notification System (ERNS) List
The EPA Emergency Response Notification System (ERNS) List is a list of hazardous material incidents reported to various State agencies. The EDR report indicates that:

The site does not appear on the ERNS List.

State Landfill List
Lists of active and inactive landfills, artificial fills, and disposal sites are maintained by the Georgia Environmental Protection Division (EPD). The landfill listing does not include unpermitted landfills or dumps. The EDR report indicates that:

The site does not appear on the Landfill List.

There are no properties listed on the Landfill List within a one-mile radius of the Site. Although the EDR report did not list any landfills within one-mile of the subject site, TTL has knowledge of the Sumter County Landfill located approximately 0.7 miles west of the western site boundary on McMath Mill Road. Although there are occasional exceedences of groundwater contaminants and methane within the subsurface environment originating from the landfill, there has been no evidence that the subject site has been impacted by the landfill (TTL, 2009b).

State Leaking Underground Storage Tank (LUST) List
The State Leaking Underground Storage Tank (LUST) List is a listing of UST systems within the state of Georgia that have reported releases of UST contents. This list is maintained by the EPD. The EDR report indicates that:

The site does not appear on the LUST List.

Three LUST facilities are listed in the EDR report within the '/2 -mile ASTM recommended search distance of the subject property:

1) Express Lane #18 - Located adjacent to the Site on the southeast boundary, in the northwest corner of US19 and US280.

2) Americus Inland Texaco #819 - Located at 1204 South Martin Luther King Boulevard approximately ¼ to ½ mile east of the Site at a significantly lower elevation from the site.

3) Westside BP - Located at 910 Martin Luther King Boulevard approximately '/4 to % mile east of the Site at an elevation significantly lower that the site. LUST facilities 2 and 3 are located sufficiently distant from the subject site and at a much lower elevation and are therefore not considered to present a threat of impact to the environmental quality of the site.

LUST facility #1, Express Lane # 18 is located adjacent to the site. According to the EDR database information, this facility reported a released of petroleum fuel from their underground storage tank system in 1988. The UST site Facility ID number is 9129008 and in April of 2002 the facility was given a No Further Action (NFA) status. A NFA status is typically granted when a release or contamination occurrence has been managed by the EPD to the extent that the regulatory agency is satisfied that the incident no longer presents a threat to human health or the environment.

State Underground Storage Tank (UST) List
The State Underground Storage Tank (UST) List is a listing of underground storage tank systems that are registered with EPD. The EDR report indicates that:

The site does not appear on the UST List.

No UST facilities are listed by EDR within the ¼ - mile ASTM-recommended search distance of the subject property:

Based on conversations with Georgia Department of Natural Resources personnel, the TransMontaigne terminal, south of the Site is listed on the UST (Facility I.D. 1290022) database, however, there is no file on the Site. This scenario was typical during early development of UST regulatory requirements reporting in the late 1980s and early 1990s, especially for bulk petroleum fuel storage facilities (terminals).

State Hazardous Waste Sites (SHWS) List
The Georgia State Hazardous Waste Sites (SHWS) List is maintained by the EPD. The EDR report indicates that:

The site does not appear on SHWS List.

There are no facilities listed on the SHWS List within a one-mile radius of the site:

Properties surrounding the site are in use for agricultural purposes to the west and northwest, undeveloped wetlands to the northeast, developed for commercial or retail use in the east and southeast, and in use for industrial purposes (fuel storage) to the south. With the exception of bulk fuel storage, no other surrounding land use appears to exhibit the potential to negatively impact the environmental quality of the site to the extent that a recognized environmental concern (REC), as identified by the ASTM Standard E1527-05. Although the nature of bulk fuel storage at TransMontaigne (south of the site) suggests the potential for environmental

contamination, and associated impact to the groundwater resource below such a terminal facility. No information was identified that indicate the TransMontaigne terminal has contributed to historic or current degradation of the groundwater resource. Based on reported EPD and EPA investigations, assessment and inspections, that fuels storage at the facility has not resulted in environmental degradation requiring ongoing investigation and remediation. This is evident by exclusion from the EPD HSI database, and inclusion on the EPA CERCLIS NFRAP database (TTL, 2009b).

3.6.4 Records Reviews and Interviews

The purpose of the records review was to assess the potential presence of hazardous substance contamination as a result of activities conducted on properties within the area of the Former Hospital and New Hospital sites. During the records review, information was obtained from public agencies (Federal, state, and local) to assess whether current and past property usage within the study are may have created a potential for contamination. The search of Federal and state database listings was provided by Environmental Risk Information and Imaging Services, Inc. (ERIIS), an independent information service. Interviews and historical aerial photographs were also used to characterize the past activities on and adjacent to the sites. The study area for the records review is based on the ASTM Practice and consists of the following:

> The subject site for Emergency Response and Notification System (ERNS) sites. These sites have had a hazardous substance or petroleum released into the environment.
>
> The subject site and adjoining properties for registered underground storage tanks (USTs) and Resource Conservation and Recovery Act (RCRA) generators.
>
> One half mile radius for leaking USTs, state solid waste facility (SWF) landfill sites, and Comprehensive Environmental Response, Compensation and Liability Information (CERCLIS) sites.
>
> One mile radius for RCRA treatment, storage, and disposal (TSD) facilities, federal superfund sites, and sites on the state hazardous waste site (HWS) inventory.

During the records review, record summaries obtained by a search database listing maintained by the United States Environmental Protection Agency (EPA) and the DRN were reviewed.

4.0 Environmental Consequences

The following table summarizes the potential impacts of the Proposed Action Alternative and conditions or mitigation measures to offset those impacts. Following the summary table, any areas where potential impacts were identified will be discussed in greater detail.

Table 4-1: Environmental Consequences Impacts and Mitigation

Affected Environment	Impacts	Mitigation
Geology and Soils	Minor impact from earthmoving and excavation. BMPs should be employed to reduce potential for erosion and runoff during construction. Development and site drainage plans need to account for limitations for some site soils to erode. Need to follow sediment and erosion control BMPs. Landscaping should be completed with vegetation capable of reducing stormwater runoff to downgradient wetland areas and Muckalee Creek.	Appropriate Best Management Practices (BMPs), such as installing silt fences and revegetating bare soils, would minimize runoff.
Surface Water	No effect: no jurisdictional streams exist on the site. BMPs should be used to reduce potential erosion and sedimentation in downgradient, jurisdictional streams off site.	A Stormwater Pollution Prevention Plan (SWPPP) and a National Pollutant Discharge Elimination System (NPDES) permit must be obtained prior to construction. Appropriate BMPs, such as installing silt fences and revegetating bare soils, would minimize runoff.
Groundwater	No impacts to groundwater are anticipated.	None.
Floodplains	Construction of hospital would comply with EO 11988 and FEMA regulations.	None.
Waters of the U.S. including Wetlands	No effect: no wetlands exist on the proposed 45-acre site. BMPs should be employed to reduce potential erosion and urban runoff to potential threatened or endangered species in downgradient wetland areas and Muckalee Creek.	Appropriate BMPs, such as installing silt fences and stabilizing soils would minimize runoff into downstream water resources.
Transportation	There would be a minor temporary increase in the volume of construction traffic on roads in the immediate vicinity of the proposed project site. Minor, long-term impacts to traffic levels on US19 and US280 would occur as a result of increased hospital patients and facility staff accessing the proposed facility.	Construction vehicles and equipment would be stored on-site during project construction and appropriate signage would be posted on affected roadways. Appropriate signage would be posted to designate the approach to the hospital facility. Roadway improvements are proposed. Additional traffic devices including traffic lights may be installed during or on completion of construction to mitigate the minor long-term impacts to traffic levels.

Table 4-1: Environmental Consequences Impacts and Mitigation		
Affected Environment	**Impacts**	**Mitigation**
Public Health and Safety	Construction activities could present safety risks to those performing the activities.	All construction activities would be performed using qualified personnel and in accordance with the standards specified in Occupational Safety and Health Administration (OSHA) regulations. Appropriate signage and barriers would be in place prior to construction activities to alert pedestrians and motorists of project activities.
Hazardous Materials	No effect: no evidence of hazardous waste and materials on the 45-acres Proposed New Hospital site.	Any hazardous materials discovered, generated, or used during construction would be disposed and handled in accordance with applicable local, state, and federal regulations.
Socioeconomic Resources	Beneficial effect: existing and recruited healthcare professionals, supporting staff, and businesses would return to support new hospital and community growth. It would also improve housing and business development of lands to west side of Americus.	None.
Environmental Justice	No disproportionately high or adverse effect on minority or low-income populations is anticipated. Continued same level of local hospital facilities and services at site location 0.7 mile further from Americus city center than Former Hospital site.	None.
Air Quality	Short-term impacts to air quality would occur during the construction period.	Construction contractors would be required to water down construction areas when necessary; fuel-burning equipment running times would be kept to a minimum; engines would be properly maintained.
Noise	Temporary impact: site preparation selected removal of forest and regrading activities, and buildings construction.	Construction would occur during scheduled hours and equipment would meet all local, state, and federal noise regulations.
Biological Resources	Approximately 30 acres of forest would be removed. No impacts to federally listed species are anticipated.	None.
Cultural Resources	No effect: no historic structures identified on this 45-acre former farm site unused for about 41 years.	None.
Infrastructure	No impacts to infrastructure	None.
Hazardous Waste and Materials	No hazardous waste and materials are anticipated.	None.

4.1 Physical Environment

4.1.1 Geology and Hydrogeology

No Action Alternative

This alternative would have no impact on any geological or hydrogeological conditions.

Former Hospital Site and New Hospital Site Alternatives

These alternatives would have no impact on any geological or hydrogeological conditions.

4.1.2 Geologic Hazards

No Action Alternative

This alternative would have no effect on any geologic hazards.

Former Hospital Site and New Hospital Site Alternatives

New construction can have adverse long-term impacts form a slight increase in sinkhole subsidence, collapse, flooding and groundwater contamination. Removal of trees and vegetation or alternation of topography could enhance the above mentioned conditions to occur. This would most likely occur during the construction phase of the project. The degree of these impacts depends on the geologic conditions at each site.

Each site was examined for visual signs of sinkholes. Although none was observed, structure design should take into account the potential for sinkhole development to avoid loss of structural support for buildings and pavement. Options for mitigating sinkhole problems include:

Select sites without sinkholes or unsafe cavities, if possible;

Appropriate design and construction methods to safely fill sinkholes and cavities;

Appropriate design and construction methods for structures that compensate for the site's geologic hazard; and

Careful attention to on-site stormwater management in site design and post-construction

Although the risk of sinkhole development appears unlikely and cannot be entirely eliminated, certain design and construction measures can reduce the risk of sinkholes occurring during and after construction.

4.1.3 Topography

No Action Alternative

This alternative would have no impact on any topographic conditions.

Former Hospital Site Alternative

This alternative would potential effects on the topography of the Former Hospital site. The site is relatively flat on the east side with fairly steep slopes for building construction on the west side. Construction would include earthmoving and shallow to possibly deep excavation. Potential negative short-term impacts would be mitigated through the control of runoff and prevention of erosion using best management practices in accordance with Georgia Sediment and Erosion Control Act.

Potential negative short-term and long-term impacts are related to if the investigations focused on the UST RECs reveal extensive soil contamination, large pits may be needed to remove the soils before buildings are constructed, or remediated in-place with air-sparging and soil-vapor extraction wells. If groundwater contamination is also detected a network of groundwater monitoring and extraction wells and treatment plant may be needed on site and possibly offsite to control and cleanup the groundwater.

New Hospital Site Alternative

This alternative would potential effects on the topography of the New Hospital site. The site is relatively flat. Construction would include earthmoving and shallow excavation. Potential negative short-term impacts would be mitigated through the control of runoff and prevention of erosion using best management practices in accordance with Georgia Sediment and Erosion Control Act.

4.1.4 Soils

No Action Alternative

Under this alternative, soil erosion due to wind and runoff would continue to occur in those places at the Former Hospital and New Hospital sites where vegetative cover is minimal or non-existent. This erosion would likely be minimal at the New Hospital site since the site soil types are characterized as having only slight to low erosion hazards.

There is a potential for significant soil erosion on the west side of the Former Hospital site as the soil type is a Greenville sandy clay loam, characterized with 8 to 12 percent slopes and severely eroded. The destroyed hospital buildings located on the west side of the Former Hospital site were demolished. The parking lot on the east side of the site has Tifton sandy loam type soils and the asphalt pavement covering the soils has remained intact. Most of the hospital building materials and contents were removed and disposed at regulated sites. The ground surface on the west side is presently cleared of vegetation with about 20,000 cubic

yards of crushed concrete debris and gravel in two piles remaining near the middle. The west side of the site should be revegetated and maintained to control potential erosion of the native soils and the piles containing 20,000 cubic yards of concrete/gravel demolition materials in this No Action Alternative.

Former Hospital Site Alternative

If the Former Hospital site is used for the replacement hospital there is a potential for initial construction minor to significant soil erosion on west side of the Former Hospital site as the soil type is a Greenville sandy clay loam, characterized with 8 to 12 percent slopes and severely eroded. The parking lot on the east side of the site has Tifton sandy loam type soils and the asphalt pavement covering the soils has remained intact. The ground surface on the west side is presently cleared of vegetation with 20,000 cubic yards of crushed concrete and gravel in two piles.

The crushed concrete and gravel piles should be removed and/or reused for building the replacement hospital facilities. Development of the west side of the site should include revegetation and maintenance of remaining exposed soil surfaces to minimize and control potential erosion of the native soils in this Alternative. Construction should include appropriate sediment control practices, as indicated in the Georgia Sediment and Erosion Control Act.

New Hospital Site Alternative

According to the soil survey the New Hospital site soils are composed mainly of Orangeburg loamy sand, with about 3 acres composed of Lucy loamy sand located northwest of the planned main hospital building. These soils have low erosion hazards. Construction should include appropriate sediment control practices, as indicated in the Georgia Sediment and Erosion Control Act. Short-term and long-term sediment and erosion control should be practiced to protect the wetland ecosystems associated with the nearby unnamed intermittent streambed on the north and the Muckalee Creek area on the northeast.

4.1.5 Floodplain Management

Since none of the alternative sites are in the floodplain, maintaining the status quo would not affect the floodplain.

4.2 Biological Environment

4.2.1 Plant Communities and Wildlife

No Action Alternative

This alternative would have no effect on plant communities and wildlife.

Former Hospital Site Alternative

The Former Hospital site alternative would have no effect on plant communities and wildlife. The site was extensively damaged by the March 2007 tornado disaster event and following site demolition activities the site was graded clear of vegetation. A few trees remain on site not destroyed by the tornado.

New Hospital Site Alternative

Development of the New Hospital site poses minor impacts from removal of up to 20 acres of common, secondary growth, mixed hardwood-pine woodlands, and about 10 acres of abandoned pecan orchards.

4.2.2 Threatened and Endangered Species

Based on the field observations, it is unlikely that rare, threatened or endangered species exist at any of the proposed sites, and none of the listed species were observed at any of the sites during the field reconnaissance.

No Action Alternative

This alternative would have no effect on threatened or endangered species.

Former Hospital Site Alternative

The Former Hospital site is presently highly disturbed following the March 2007 tornado disaster event and site demolition activities. Construction of a replacement hospital at this location would have no effect on threatened or endangered species.

New Hospital Site Alternative

The 45-acres proposed for construction of the New Hospital, out of the 272-acre property, is unlikely to contain rare, threatened or endangered species. The 45-acre site is on the top of a hill which formerly was used for farmland up to about 1968. An old unused orchard with pecan trees lies on the south half of the site. The north half of the site has a secondary growth, mixed hardwood-pine woodlands, about 41 years old. The New Hospital is planned to be built in the middle of the site on the hilltop. It will be surrounded by paved parking, smaller associated buildings, and surrounding remaining woodlands.

No wetlands are located on this 45-acre site, so no species with wetland habitat areas will be affected. The woodland is young, so it not old enough to satisfy the habitat needs for the Red Cockaded Woodpecker.

4.2.3 Wetlands

The NWI map and field reconnaissance indicate that no wetlands exist at either the Former Hospital site or the New Hospital site. Therefore, no impacts to wetlands would occur under any of the alternatives.

4.3 Human Environment

4.3.1 Land Use and Zoning

No Action Alternative

No changes to land use or zoning would occur under the no action alternative.

Former Hospital Site Alternative

No changes to land use or zoning would occur under this alternative as the site is zoned for hospital use. The site would contain the rebuilt hospital facilities and paved parking areas.

New Hospital Site Alternative

The 45-acre site proposed for the New Hospital was annexed and rezoned by the City of Americus in July 2009. The site annexation included the entire 45 acres, as the city boundary line essentially touched the east edge of the site, next to the Quality Inn and Waffle House businesses. The site was rezoned from farming (C-2: Commercial Overlay Zone) uses to hospital (I-N: Institutional Zone) uses. No further land use and zoning changes are required.

4.3.2 Demographics and Housing

No Action Alternative

This alternative would change the demographic or housing characteristics for the community. If a replacement hospital is not constructed most of the healthcare professionals would move to other communities to practice their profession. The hospital and supporting healthcare and related businesses would likely cause the community demographics to change, cause the economy to decline, and decrease the value of housing.

Former Hospital Site Alternative

No change would occur in this alternative as the rebuilt hospital would exist on the same site as the Former Hospital.

New Hospital Site Alternative

Demographics and housing is likely to change through this alternative of rebuilding the hospital on the 45-acre site. Presently the land use surrounding the site is mainly farming with small- to moderate-sized commercial and industrial businesses along US19 and US280.

The development of the remaining 272-acre property may include housing and facilities related to the healthcare industry. About 70 acres of the 272-acre property will likely be designated use for wetland preservation or acceptable recreational activities. Other supporting business and housing developments are likely to eventually be built nearby surrounding the rebuilt hospital.

4.3.3 Local Economy and Employment

No Action Alternative

If no hospital is rebuilt most of the physicians associated with the SRH/PSMC would likely move away from Americus and work in other communities. As of August 2009, a total of 134 physicians are on the SRH roster. Most of the physicians have struggled to continue to work in Americus without a full-service hospital. Their services may be used at other nearby hospitals or medical centers, noted to be 15 to 75 miles away. Since the disaster a total of up to 14 physicians either retired or quit practicing in Americus (AG, 2009). The former SRH physicians' manager estimates out of the 134 physicians on the roster 11 would stay, 4 would retire, and 119 would leave and take their practice outside of Sumter County (Young, 2009). The economic impact of a family physician in Georgia has been estimated to be $1,028,774 per doctor per year (Graham, 2007). Therefore, the loss of up to 119 physicians is equivalent to an economic loss of about $122 million dollars per year to Sumter County. This does not account for the likely higher economic impact of specialty physicians. It also does not account for their contribution to the generation of income for other local hospitals and nursing homes.

If no hospital is rebuilt fewer jobs would be available to support the community. The Georgia Southwestern State University (GSWSU), South Georgia Technical College (SGTC), International Headquarters for Habitat for Humanity and similar institutions and businesses within Sumter County may lose students and staff, as the lack of available and quality of healthcare services would make Sumter County an unattractive community to live.

Former Hospital Site Alternative

A rebuilt hospital on the Former Hospital site would improve the local economy and employment. The present SRH East temporary hospital serves about 59 percent of the capacity of the Former Hospital, before the March 2007 tornado disaster, for residents from Sumter County and surrounding counties. A new hospital facility will likely draw new and more qualified healthcare physicians and staff to work in Sumter County. It is presumed the capacity of the rebuilt hospital would be equal to or exceed the capacity of the Former Hospital. As a result the local economy and employment are expected to slightly improve from the conditions evident before the March 2007 tornado disaster.

A rebuilt hospital would also improve the attraction of Sumter County economy and employment for existing and new residents. GSWSU and SGTC students, faculty and staff would be assured their local and quality healthcare needs were satisfied and attract new students. Staff from the Habitat for Humanity International headquarters and other local

institutions and businesses would also be assured their healthcare needs were satisfied. Sumter County would improve as a destination for retirement living and hospice facilities.

New Hospital Site Alternative

The location of the New Hospital site is 0.7 mile further away from Americus' city center than the Former Hospital site. The economic and employment opportunities will remain essentially the same with no significant impact.

A rebuilt hospital on the New Hospital site would improve the local economy and employment. The design to rebuild the hospital on this site includes LEED architectural and landscape features desirable to improve living and working conditions of facilities. This will set the stage to attract and retain high-skilled family and specialty physicians to Sumter County. Other buildings and businesses will also be attracted to the new opportunities near the new hospital on the west side of the City of Americus. Housing is expected to grow in this area associated with the new employment opportunities for healthcare and other present and future businesses.

A rebuilt hospital would also improve the attraction of Sumter County economy and employment for existing and new residents. GSWSU students, faculty and staff would be assured their local and quality healthcare needs were satisfied and attract new students. Staff from the Habitat for Humanity International headquarters and other local institutions and businesses would also be assured their healthcare needs were satisfied. Sumter County would improve as a destination for retirement living and hospice facilities.

4.3.4 Community Facilities and Services

No Action Alternative

This alternative would have a negative impact on the loss of tax revenue, community facilities and services as no hospital would be rebuilt. Besides the direct loss of healthcare services, many of the associated businesses, local and county governments, and educational institutions would likely suffer economically and reduce or eliminate their facilities and services. Sumter County and neighboring county residents would travel a greater distance to obtain their required healthcare services. Some residents may not be able to afford to travel to the remote healthcare facilities.

Former Hospital Site Alternative

As the hospital would be rebuilt on the Former Hospital site it would have a long-term negative impact on community services in Americus. This site has limited area for construction of facilities and for new/future facilities as the community grows. This would limit the local tax base, and the growth potential of healthcare facilities, local colleges and businesses.

New Hospital Site Alternative

The rebuilt hospital at the New Hospital site would have a positive impact on community services in Americus. This includes a direct impact from likely development of new supporting healthcare services and resources around the New Hospital site. An indirect impact is derived from the associated new businesses and housing that will likely surround the new hospital as new land developments grow on the west side of Americus

Under the proposed lease of the SRH hospital facilities, PSMC is contractually committed to continue to offer the major clinical services offered by SRH before the March 2007 tornado disaster, except for Behavioral Health Services. If independent funding sources are identified to manage operating losses Behavioral Health Services will be offered. Indigent care will be provide in full compliance with state and cooperate to provide indigent care in full compliance with state and federal law and provide medical treatment or services regardless of a patient's immediate inability to pay. PSMC made an enforceable commitment to provide health care to the disadvantaged, the uninsured and the underinsured. PSMC will also provide benefits to the community to promote improved health care with sufficient safeguards to assure continued access to affordable care and to the range of services historically provided by the SRH hospital (AG, 2009).

4.3.5 Environmental Justice

EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Socioeconomic and demographic data for the project area were reviewed to determine if the proposed action would have a disproportionately high, adverse impact on any minority or low-income populations.

No Action Alternative

Taking no action would have a negative impact on environmental justice issues. With no rebuilt hospital residents may be reluctant or not afford to travel to the remote healthcare facilities.

Former Hospital Site Alternative

As the hospital would be rebuilt on the Former Hospital site there would be no disproportionately high, adverse impacts on any minority or low-income populations. The construction of the new hospital building would generally improve the quality of housing and businesses in the vicinity. The public health and safety of the neighborhoods would likely improve near the hospital.

New Hospital Site Alternative

In this alternative there would be no disproportionately high, adverse impacts on any minority or low-income populations. Rebuilding the hospital at the New Hospital site would more effectively serve all populations in the community and region by providing a more accessible location through US19 and US280 with more connections to other major roads.

4.3.6 Noise

Noise is generally defined as unwanted sound. Sound is most commonly measured in decibels (dB) on the A-weighted scale, which is the scale most similar to the range of sounds that the human ear can hear. The Day-Night Average Sound Level (DNL) is an average measure of sound. The DNL descriptor is accepted by federal agencies as a standard for estimating sound impacts and establishing guidelines for compatible land uses. EPA guidelines, and those of many other federal agencies, state that outdoor sound levels in excess of 55 dB DNL are “normally unacceptable” for noise-sensitive land uses including residences, schools, or hospitals (EPA, 1974).

No Action Alternative

Under this alternative there would be no short- or long-term impact to noise levels because no construction would occur.

Former Hospital Site and New Hospital Site Alternatives

Under both alternatives short-term increases in noise levels are anticipated during the construction period. This increase would be temporary and not considered significant. Equipment and machinery utilized on the project sites would meet all local, state, and federal noise regulations. Normal activities at the new facility are unlikely to affect other sensitive receptors in the area.

4.3.7 Visual Resources

No Action Alternative

In this alternative the Former Hospital site has an intact asphalt-paved parking lot on the east side of the site and bare ground on the west side of the site, following demolition of former hospital buildings. In addition, there are two piles of crushed concrete and gravel comprising 20,000 cubic yards that lie near the middle of the site. Under this alternative the asphalt paving, bare ground and piles of crushed concrete and gravel would remain as negative impacts to the visual resources of the community.

Former Hospital Site Alternative

In this alternative the impacts described in the No Action Alternative for the Former Hospital site would be improved to be a beneficial impact to the community. The rebuilt hospital and

grounds would be developed in cooperation with the community to minimize potential visual impacts.

New Hospital Site Alternative

Rebuilding the hospital on the New Hospital site would be a beneficial impact to the community. The existing site contains regrown young forest on the north and an unused Pecan orchard on the south. Development of the hospital grounds would retain suitable trees on site in addition would add significant landscape changes to improve the visual appearance of the site. This would be in compliance with LEED design considerations.

As the site will be developed with LEED design other surrounding properties likely will also adopt LEED designs improving the visual resources for the community on the west side of Americus. This will help attract and retain new physicians, other healthcare professionals and supporting businesses to this rural area.

4.4 Cultural Resources

No Action Alternative

Under this alternative, the public hospital would not be rebuilt. It would be a negative impact to the community cultural resources.

Former Hospital Site Alternative

Under this alternative, the public hospital would be rebuilt on the Former Hospital site. It would have no impact to the community cultural resources.

New Hospital Site Alternative

No significant cultural resources were identified through field surveys on the New Hospital site, as a result this alternative would have no impact to the community cultural resources.

4.4.1 Historic Structures

As there are no historic structures involved with the alternatives there is no impact to historical structures in the community.

4.4.2 Archaeology

As there are no known archaeological resources involved with the alternatives there is probably no impact to archaeological resources in the community.

4.5 4.5 Infrastructure

No Action Alternative

Under the No Action Alternative, no impact to water supply, wastewater treatment, or utilities is expected.

Former Hospital Site and New Hospital Site Alternatives

Each of these alternatives would involve the reconnection or addition of distribution lines from the existing water supply, sewer collection and natural gas utilities pipelines located at each site. Americus' would provide these resources and no capacity issues are expected (Kendrick, 2009 and Deason, 2009). The environmental consequences of installing the distribution pipelines would be minimal.

4.5.1 Transportation

No Action Alternative

Under the No Action alternative there would be no effect on transportation to the community.

Former Hospital Site Alternative

Under the Former Hospital site alternative of rebuilding the hospital there would be no effect on transportation to the community.

New Hospital Site Alternative

Under the New Hospital site alternative there would be no significant impact to transportation to the community. The City of Americus Transit System includes the use of four on-call vans that can transport passengers around the community at a flat cost of $2.00 per ride. The Americus Community and Economic Development Department manages the Transit System and reported an annual average of 90 rides per day over the last 4 years, 2006 to 2009 (Young, 2009). The number or rides is expected to remain the same once the hospital is rebuilt on the New Hospital site. Two private taxi companies also exist in the city that can transport passengers at a flat cost of $5.00 per ride. Transportation within Americus is done mainly through private vehicles, secondarily by walking.

Major roadway improvements to US19 are presently being completed by Georgia DOT. This involves widening the road to 5 lanes, 2-lanes each direction with a painted median/turning lane. In July 2009 new concrete curb and gutter roadway details were completed from the US19/280 intersection/merge on the north side of the road up to the southeast corner of used car dealership, located southeast of the 272-acres property. DOT plans to complete construction of a concrete sidewalk from the US19/280 intersection/merge to the driveway of the used car dealership. The new north-side highway bridge widening across Muckalee Creek includes a simple 3-feet high concrete barrier/rail and is not designed for a sidewalk.

The south-side of the highway bridge presently has the older/original sidewalk and handrail across Muckalee Creek.

The City of Americus plans to construct a new sidewalk along the easement of N. Martin Luther King, Jr. Blvd., towards the New Hospital site. Following the present DOT work it will tie in with the existing network of city sidewalks that end at the intersections of W. Forsyth Street/W. Lamar Street and N. Martin Luther King Jr. Blvd. As a result a continuous sidewalk will connect the hospital to the Americus network of sidewalks.

4.6 Hazardous Waste and Materials

4.6.1 No Action Alternative Conditions

Under the No Action alternative, the RECs identified in Section 3.6.2, for the Former Hospital site, would be investigated to determine the extent of soil and possible groundwater contamination that underlies the site from former land use activities. This includes the soil contamination discovered in 1997 during the excavation for expansion of the hospital building; likely related to one to three former USTs used by the former construction contractor, AEC, on the northeast corner of the site. It also includes potential soil contamination from the Former Hospital's four USTs used for diesel fuel and heating oil, located along Oglethorpe Street. If soil and/or groundwater contamination is evident and the level of liability identified, appropriate remediation measures should be conducted to eliminate these sources of contamination.

4.6.2 Former Hospital Site Alternative Conditions

Through the Former Hospital site alternative the site would be investigated to determine the extent of soil and possible groundwater contamination that underlies the site as described in Section 4.6.1 No Action Alternative Conditions. If soil and/or groundwater contamination requires remediation activities, they may be designed to allow the hospital to be rebuilt. This work should be coordinated with and approved by EDP, the state regulatory agency responsible to protect the public from soil and groundwater contamination issues.

Table 3-54 and Table 3-6 summarize the proximity of the LUST and UST sites in relation to the Former Hospital site. At the present time potential for LUST/UST sites to cause adverse impacts to human health or the environment is low. Further, as long as proper fuel storage, maintenance practices, and compliance with all applicable State and Federal regulations are adhered to, the likelihood of any future petroleum release impacts to the proposed hospital.

Hazardous building materials that may be discovered not removed during the 2008 hospital demolition contract would be disposed of in a permitted solid waste landfill. Standard operating procedures should be followed for removal and disposal of hazardous waste or soils. All friable and non-friable asbestos containing materials (ACM) that may become friable during excavations should be removed according to the National Emissions Standard for Hazardous Air Pollutants (NESHAP) regulations.

4.6.3 New Hospital Site Alternative Conditions

No hazardous waste or materials were identified to exist on the 45-acres proposed for the New Hospital site. Therefore, no potential adverse impacts to human health and the environment are anticipated at this site from hazardous waste or materials.

4.7 Summary of Environmental Consequences

None of the alternatives are expected to result in any significant adverse impacts. Many of the potentially adverse impacts described in the preceding section on environmental consequences are minor and do not require mitigation. Section 4.8 describes the mitigation actions necessary to minimize potential unavoidable adverse impacts.

4.8 Mitigation of Unavoidable Adverse Impacts Associated with the Alternatives

Mitigation refers to those actions that would reduce or eliminate potential adverse environmental impacts that could occur as a result of the proposed action. Many of the potentially adverse impacts in the previous sections and the impact summary matrix (Table 2-1) are minor and do not require any formal mitigation.

Construction at the sites would occur so that limitations associated with potential sinkhole development and the tendency for some soils to flood would be accounted for. Similarly, BMPs, such as erecting silt fences, would be used during construction to minimize erosion and sedimentation, in compliance with the Georgia Erosion and Sediment Control Act. Buffers should be constructed around potential live oak trees at the sites to prevent damage during construction.

4.9 Relationship Between the Short-Term Use of the Environment and the Maintenance and Enhancement of Long-Term Productivity

The construction of the replacement hospital would generate economic productivity in terms of the temporary construction work created and the purchasing of materials, supplies, and services. The direct and indirect economic gain would primarily be a short-term benefit, although new housing and businesses around the new hospital could revitalize the area, creating long-term economic benefits. As the Former Hospital site is in the urban area there would be no impact on area resources. The New Hospital site is located on an insignificant area of unused farmland that does not reach a threshold for action related to the Federal Farmland Protection Act (NRCS, 2009). Area soils would be temporarily disturbed, and vegetation at the site may be lost to accommodate the site plans for healthcare facilities and new landscaping.

Long-term productivity would result from the site alternatives by restoring full healthcare services to the community. The New Hospital site is located at the intersection of US19 and US280, the main traffic arteries connecting Sumter County with surrounding counties.

Recent and planned improvements in US19 and US280 will make it easier to access the rebuilt hospital. The construction of the hospital using LEED design standards are likely to improve productivity and health of healthcare physicians, staff and patients. It will also help to attract and retain physicians to this rural area.

4.10 Cumulative Impacts

Based upon the proposed hospital replacement project's details above, it is apparent that this proposed project, in combination with other projects (past, present, and foreseeable future [20 years]) in and near Americus, Georgia would not have a cumulatively significant adverse impact on the human environment.

4.11 Irreversible or Irretrievable Commitment of Resources

Regulations for the preparation of NEPA compliance studies require evaluation of irreversible and irretrievable commitments of resources associated with the alternatives. For the 272-acre property with the 45-acre New Hospital site, 60 acres would continue to be dedicated to wetlands. The remaining 167 acres would eventually be developed for other healthcare-related concerns and business, such as pharmacies, non-profit agencies and services, would be logical and encouraged elements for future growth. The proposed site plans include green spaces and perimeter walking trails to promote physical fitness.

5.0 Public Involvement

Since the March 1, 2007 tornado disaster event, the public has been continuously engaged in the rebuilding of the hospital facilities. Sumter Regional Hospital and related health-care services are major employers and important for the vitality and continued economic growth for the City of Americus and Sumter County. The public in the surrounding communities and counties support the return of quality regional health care that was provided to them by SRH in Sumter County.

A total of 13 months after the disaster the temporary hospital, SRH East, was constructed and operational with transportable modular housing units. The SRH East is an interim solution to health care for the region and it was expected that a new replacement hospital would eventually be constructed and operational. Noted in Section 3.3.4, the number of patients treated at SRH East dropped to 59 percent of the Former Hospital capacity, as patients go to other remote more full-service healthcare facilities. Americus and Sumter County constitute "small town" rural community, with the setup of the temporary hospital and building the replacement hospital as regular major local news.

Public meetings, newspaper articles and local television station reports have kept the Sumter County public informed on the progress of the hospital rebuilding efforts (Tables 5-1 and 5-2). They document numerous opportunities for the public to provide comments and questions on the proposed project and possible cultural, economic and environmental consequences.

In November 2007, shortly following the March 1, 2007 tornado, voters in Sumter County approved a Special Local Options Sales Tax (SPLOST) that will last until at least 2014. This includes a 1 percent sales tax to help rebuild the hospital, among other capital improvement projects in the county. An Americus Times Recorder article from July 28, 2007 said $3M will be derived from this fund for the hospital (Young, 2009). Sumter County residents know their sales tax money is going towards rebuilding the hospital.

As the Authority reached an agreement with Phoebe Putney to partner in rebuilding the hospital, public meetings and newspaper articles carried the news to the public of the progress of the partnership. This included numerous articles in the daily local newspaper, the Americus Times Recorder. Below is a brief listing of dates:

Table 5-1: Public Meetings on Rebuilding the Sumter Regional Hospital

Date	Location	Meeting Subject	Groups Present	Source
11/2/2008	Albany-Dougherty Hospital Authority Meeting	Phoebe Putney Health System's proposed lease of Sumter Regional Hospital	Members of Hospital Authority, PPHS representatives	Albany Herald
11/11/2008	Americus Rotary Club	Proposed lease of Sumter Regional Hospital by Phoebe, rebuilding the hospital at a different location	Rotary Club members, PPHS representatives, SRH representatives	Americus Times Recorder
11/18/208	Commission Meeting	EMS Contract and Phoebe Sumter Lease	County commissioners, PPHS representatives, SRH representatives, citizens	Americus Times Recorder
12/22/2008	Public Hearing -- Sumter Bank & Trust	Public hearing conducted by Americus and Sumter County Hospital Authority to discuss terms of lease.	Public	Americus Times Recorder
11/18/2008	Sumter County Board of Commissioners	Strategic partnership with Phoebe, Discussion of alternate site.	County commissioners, PPHS representatives, SRH representatives, citizens	Americus Times Recorder
2/12/2009	Albany-Dougherty Hospital Authority Meeting	Update on Phoebe Sumter facility, other business	Members of Hospital Authority, PPHS representatives	Albany Herald
2/13/2009	Americus Kiwanis Club	Update on Phoebe/Sumter lease	Kiwanis Club members, PPHS representatives	Americus Times Recorder
3/4/2009	PPMH Board Meeting	Update on Phoebe/Sumter lease and land purchase	PPMH Representatives and Board members	Albany Herald
5/13/2009	Georgia Southwestern University	Public Comments	Members of Hospital Authority, PPHS representatives	Georgia Attorney General "Findings" Document
6/18/2009	Americus City Hall	Agenda Item: 1st Public Hearing for New Hospital site Rezoning & Annexation.	Americus City Council and staff, PPHS management staff & representatives.	City Council Minutes
7/23/2009	Americus City Hall	Agenda Item: 2nd Public Hearing for New Hospital site Rezoning & Annexation.	Americus City Council and staff, PPHS management staff & representatives.	City Council Minutes
8/10/2009	Americus City Hall – Joint City/ County Meeting	Agenda Item: Rebuilding hospital on New Hospital site	Sumter County Commissioners and staff, Americus City Council and staff, PPHS management staff.	Americus Times Recorder

Table 5-2: List of Local Newspaper Articles Television News on Hospital Rebuilding		
Date	**Subject/Headline**	**Source**
11/6/08	Americus hospital to open in 2011 Phoebe Putney Health System plans to lease and manage Americus' hospital for 40 years.	Albany Herald
11/6/08	Phoebe will control new Americus hospital	WALB (TV)
11/8/08	Americus hospital partners with Phoebe Putney Sumter Regional Hospital reaches out for a partner to build a new 76-bed hospital, and finds Phoebe Putney	Albany Herald
10/18/2008	SRH selects Phoebe Putney as partner to build new Americus hospital	Americus Times-Recorder
10/31/2008	Sumter Regional Hospital announces job cuts	Americus Times-Recorder
11/12/2008	Phoebe Putney CEO looks to 'extra slice of pie' with Sumter Regional	Americus Times-Recorder
11/18/2008	SRH reps tell County: EMS won't be their concern	Americus Times-Recorder
11/25/2008	Public hearing to be held Dec 22	Americus Times-Recorder
11/27/2008	Voices - Stembridge asks about hospital	Americus Times-Recorder
12/22/2008	Public hearing fails to answer public's questions	Americus Times-Recorder
1/18/2009	Hospital Update-CEO talks of lease	Americus Times-Recorder
1/18/2009	Phoebe Putney CEO given public questions	Americus Times-Recorder
2/13/2009	Authority gets update on medical tower	Albany Herald
2/14/2009	Phoebe CEO asks Americus not to be impatient	Americus Times-Recorder
3/3/2009	Late Breaking News - Phoebe In Agreements For Land	Americus Times-Recorder
3/3/2009	Hospital Moves Forward	Americus Times-Recorder
3/4/2009	Hospital Moves Forward...	Americus Times-Recorder
3/4/2009	Land selected for Sumter Regional Hospital	WALB (TV)
3/5/2009	Sumter hospital project making progress	Albany Herald
3/17/2009	Hospital signs deal	Americus Times-Recorder
4/29/2009	Phoebe Putney names Phoebe Sumter Board	Americus Times-Recorder
5/13/2009	Attorney General to hold hospital hearing	Americus Times-Recorder
5/18/2009	City officials comment on new hospital	Americus Times-Recorder
6/9/2009	AG OKs agreement between Phoebe, Sumter	Americus Times-Recorder
6/11/2009	Requests made for rezoning of new PSMC property	Americus Times-Recorder
6/18/2009	Americus City Council holds public hearings on Phoebe requests	Americus Times-Recorder
7/4/2009	Local Real Estate Transactions, Phoebe pays big for land	Americus Times-Recorder
7/11/2009	Real Estate Transactions	Americus Times-Recorder
7/23/2009	Americus City Council gets it done	Americus Times-Recorder
8/5/2009	Americus and Sumter County Hospital Authority meets	Americus Times-Recorder

Copies of the Draft EA were placed in two information repositories located in the City of Americus, the Clerk's Office in the Municipal Building and the Blackshear Regional Library, for a 21-day public review and comment period starting September 16th. The Draft EA was also available for viewing and downloading from FEMA's website: http://www.fema.gov/plan/ehp/envdocuments/ea-region4.shtm. Ads notifying the public of the availability of the Draft EA were placed in the Americus Times Recorder on September 11th and 15th. No comments were received during the 21-day public review period.

6.0 Agency Coordination and Permits

FEMA is the lead federal agency for conducting the NEPA compliance process for the proposed project in Americus, Georgia. It is the goal of the lead agency to expedite the preparation and review of NEPA documents and to be responsive to the needs of the community and the purpose and need of the proposed action while meeting the intent of NEPA and complying with all NEPA provisions. FEMA notified the public of the availability of the Draft EA through publication of a public notice in a local newspaper, the Americus Times-Recorder. FEMA conducted an expedited public comment period commencing on the initial date of publication of the public notice.

The following agencies and organizations were contacted by letter requesting project information and review during the preparation of this EA. Responses received to date are included in Appendix B.

- City of Americus
- Georgia Department of Archives and History (State Historic Preservation Office)
- Georgia Department of Community Affairs
- Georgia Department of Environmental Quality, Office of Pollution Control, Environmental Permits Division
- Georgia Department of Natural Resources, Bureau of Wetlands Permitting
- Georgia Department of Transportation, Environmental Division
- U.S. Army Corps of Engineers, Savannah District, Albany Area Office, Regulatory Division
- U.S. Department of Agriculture - Natural Resources Conservation Service (NRCS), Americus and Tifton Offices
- U.S. Fish and Wildlife Service, Georgia Ecological Services West Georgia Sub-Office (Columbus – Fort Benning)

Annexation and Rezoning
The City of Americus concluded its second public hearing on July 20, 2009 regarding annexation and rezoning of the proposed 45-acre New Hospital site. The first public hearing was done June 18, 2009, during its regular city council monthly meeting.

Farmland Protection Policy Act (FPPA) of 1981
The NRCS implemented FPPA review of the new hospital site. NRCS used the WSS GIS program, and determined the 272-acre site had the following characteristics (NRCS, 2009). (Fig.3-5a is a farmland soils map showing WSS GIS analyses for the new hospital site):

Total Acres Prime and Unique Farmland	118.3 acres
Total Acres Statewide and Local Important Farmland	68.6 acres
Percentage of Farmland in County or Local Govt. Unit to be Converted	0.1 percent
Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value	60.8 percent

Not Prime Farmland	32 percent
Prime Farmland	43 percent
Farmland of Statewide Significance	25 percent

Based on the NRCS Land Evaluation Criterion Relative to Value of the Farmland to be converted, the property achieved a score of 56 points, out of a total possible points of 100. Taken together with the 27 out of 160 points from the NRCS FPPA Form - Site Assessment Criteria FEMA completed, the project has a total of 83 points. Therefore, NRCS concluded the project points did not exceed the 160 points threshold so no further action is needed.

EO 11988 – Floodplain Management, 1977
FEMA reviewed the FIRM for the 272-acre property and identified about 30 acres along Muckalee Creek as designated AE-floodplain area. The northeast corner of the proposed 45-acre New Hospital site lies no closer than 400 feet from the mapped AE-floodplain area. Therefore, the proposed action will not occur in a floodplain.

EO 11990 – Protection of Wetlands, 1977
The USACE reviewed the wetlands delineation survey recently conducted on the 272-acre property and agreed that 59.5 acres are now designated protected wetlands. The northwest corner of the proposed 45-acre New Hospital site lies no closer than 110 feet from the newly-designated wetlands associated with the unnamed intermittent streambed that starts near the center of the 272-acre property. The northeast corner lies no closer than 275 feet from the Muckalee Creek designated wetlands.

EO 12898 – Environmental Justice for Low Income and Minority Populations, 1994
The City of Americus and Sumter County Joint Comprehensive Plan Update, 2009, provides a map of Americus with identified low income and minority populations. City and county staff identified neighborhoods have not changed since the map was first created in 1994 for the first Comprehensive Plan. These neighborhoods are field-surveyed every two years for federal or state grant opportunities to improve the neighborhoods. The 2000 census data closely matches the Americus data. Taken together these surveys indicate there is no significant impact on environmental justice issues for the proposed project.

Endangered Species Act
The USFWS and EPD were contacted regarding the potential for finding threatened and endangered species on the proposed project site. It is possible there are sensitive species critical habitat areas in the 272-acre property wetlands. However, as the proposed 45-acre New Hospital site was field surveyed, no critical habitat areas were found on this woody, abandoned farmland and pecan orchard area on a hilltop and away from wetlands.

National Historic Preservation Act of 1966

The Georgia SHPO was contacted regarding the proposed 45-acre New Hospital site's potential cultural and archaeological artifacts in compliance with NHPA. Recent archaeological surveys did not identify any significant artifacts that would compel them to propose further action to protect the site.

In accordance with all applicable local, state, and federal laws and regulations, the applicant would be responsible for acquiring any necessary permits prior to starting construction at the proposed project site.

7.0 Conclusions

The proposed replacement hospital project would not have any significant, adverse impacts to geology, groundwater, floodplains, public health and safety, hazardous materials, socioeconomic resources, environmental justice, or cultural resources are anticipated under the Proposed Action Alternative. During project construction, short-term impacts to soils, surface water, transportation, air quality, and noise are anticipated. All project short-term adverse impacts would be mitigated using BMPs, such as silt fences, proper vehicle and equipment maintenance, and appropriate signage. No long-term adverse impacts are anticipated from the proposed project. The proposed project would reduce nearby floodplain future occupancy. (Would likely preserve about 70 acres of wetlands and adjacent areas from commercial or residential development within the 272-acre property.)

8.0 References

Americus, City of, 2009, Official City of Americus, Georgia Web Site, http://www.cityofamericus.net/, Accessed August, 2009.

Authority, 2008. Americus and Sumter County Hospital Authority and Phoebe Putney Health System, Inc., "Letter of Intent", October 17, 2008.

Authority, 2009. Americus and Sumter County Hospital Authority, Phoebe Sumter Medical Center, Inc., and Phoebe Putney Health System, Inc., *"Agreement on Financial Terms for Construction of Phoebe Sumter Medical Center Between Putney Health System, In. and Americus and Sumter County Hospital Authority"*, June 30, 2009.

Butcher, Beverly, 2009. Personal communication – GIS Manager for the City of Americus and Sumter County interactive GIS internet web site, http://americus.binarybus.com, July 24, 2009.

Campbell, Richard, 2009. Personal communication – South Water Treatment Plant Operator for the City of Americus Public Works Department, July 24, 2009.

Carter, Burt, Ph.D., 2009. Personal communication – Professor Burt Carter with the Georgia Southwestern State University in Americus, Georgia, July 23, 2009.

City-Data.Com, 2009. Internet web site for U.S. Demographics, Accessed August, 2009.

Environmental Protection Agency (EPA). 1974. *EPA Identifies Noise Levels Affecting Health and Welfare.* http://www.epa.gov/history/topics/noise/01.htm. Accessed

Federal Emergency Management Agency (FEMA). 2009. *Flood Insurance Rate Map, Sumter County, Georgia and Incorporated Areas. Panel 134 of 375, Community Panel Number 13262C0134 C*. Map Revised September 11, 2009. http://msc.fema.gov/webapp/wcs/stores/ Accessed July 20, 2009.

Georgia Attorney General, 2009, Report on Findings – In the Matter of: The Lease of Sumter Regional Hospital by Americus and Sumter County Hospital Authority, to Phoebe Sumter Medical Center, Inc., with Phoebe Putney Health System, Inc. as Guarantor, No. AG 2009-1, June 8, 2009.

Georgia Attorney General, 2009, Amendment to Report on Findings – In the Matter of: The Lease of Sumter Regional Hospital by Americus and Sumter County Hospital Authority, to Phoebe Sumter Medical Center, Inc., with Phoebe Putney Health System, Inc. as Guarantor, No. AG 2009-1, June 12, 2009.

Georgia Department of Community Affairs (DCA), 2009. Rules of Georgia Department of Community Affairs, Chapter 110-12-3 Developments of Regional Impact (Effective Date: July 1, 2009)

Georgia Department of Natural Resources (DNR), 1976. Physiographic Map of Georgia, William Z. Clark and Arnold C. Zisa. http://georgiainfo.galileo.usg.edu/physiographic/physio-dist.htm

Georgia Department of Natural Resources (DNR), 2008, Environmental Protection Division (EPD), 2008. Fact Sheet – State of Georgia DNR EPD National Pollutant Discharge Elimination System General Permits No. GAR100001, No. GAR100002, and No. GAR100003 for Storm Water Discharges Associated with Construction Activity, June 9, 2008.

Georgia Department of Transportation (DOT), 2009, Personal communication with Mr. Robbie Albritton, DOT Field Engineer for U.S. Highway Widening Project, August 7, 2009.

Habitat for Humanity (Habitat), 2009, Announcement – Habitat for Humanity International and the Home Depot Foundation Announce National Expansion of 'Partners in Sustainable Building, joint announcement with the Home Depot Foundation, August 4, 2009.

Halford, Brad, 2009, Phoebe Sumter Medical Center, Chief Compliance Officer, Personal communication, August 11, 2009.

KLMK Group, 2009a, Phoebe Sumter Hospital Site Due Diligence Report Appendix.

Kendrick, Bernard, 2009. Public Works Director for the City of Americus, Georgia Public Works Department, July 26, 2009.

Khalequzzaman, Ph.D., Md, 2002, Water Quality of Muckalee Creek in Sumter and Lee Counties, Georgia, Department of Geology & Physics, Lock Haven University, Lock Haven, Pennsylvania.

Lanier Engineering, Inc., 2008, Wetlands Survey Property of Thomas Barr, Part of Land Lots 153, 154, 177, 178, & 183, Twentyseventh Land District, City of Americus, Sumter County, Georgia, December 23, 2008.

Lanier Engineering, Inc., 2009, ALTA/ACSM Land Title Survey Prepared for Phoebe Putney Health System, Inc., Lawyers Title Insurance Corporation, Old Republic Title Insurance Company and Watson, Spence LLP, January 28, 2009.

Rigsby, Anna., 2009, City of Americus Community & Economics Development Assistant Director, Personal communication, August 10, 2009.

Risk Tech, LLC, 2007, Sumter Regional Hospital, Hazardous Materials Remediation, Americus, Georgia, Risk Tech, LLC, 669 Marina Drive, Suite B-1, Charleston, South Carolina, April 19, 2007.

Robert E. Perry & Associates, Inc. (Perry), 2009. Report of Phase I Cultural Resources Reconnaissance of an Approximate 34-Acre Tract, Americus, Sumter County, Georgia, for TTL, Inc., March 30, 2009.

Robert Graham Center for Policy Studies, 2007, Economic Impact of Family Physicians, State-by-State Report for the American Academy of Family Physicians, June 2007, http://www.aafp.org/online/etc/medialib/aafp_org/documents/policy/state/econimpact/ga.Par.0001.File.tmp/Georiga.pdf

Stevens & Wilkinson of Georgia, Inc., 1997, Site / Staking Plan, Expansion & Renovation Sumter Regional Hospital, Americus, Georgia, September, 29, 1997.

Sumter County, 2009, Joint Comprehensive Plan – Partial Plan Update for Sumter County, including the Cities of Americus, Andersonville, DeSoto, Leslie and Plains.

TTL, 2008. Preliminary Geotechnical Report, Phoebe Putney Memorial Hospital Sumter Regional Hospital – Site Option #2, Americus, Sumter County, Georgia, December 22, 2008.

TTL, 2009a. Report of Threatened and Endangered Species Survey Jurisdictional Wetlands and Streams Survey Limited Survey of Cultural Resources, Phoebe Sumter Hospital Replacement Campus Project, Americus, Sumter County, Georgia, January 8, 2009.

TTL, 2009b. Report of Phase I Environmental Site Assessment, Phoebe Sumter Hospital Replacement Campus Project, Americus, Sumter County, Georgia, January 9, 2009.

TTL, 2009c. Phase I Environmental Site Assessment Report, Sumter Regional Hospital Properties: Former Sumter Regional Hospital Site 12.5+/-Acres 100 Wheatley Drive, Americus, Georgia, for Sumter Regional Hospital, June 5, 2009.

U.S. Army Corps of Engineers (USACE). 1987. *Corps of Engineers Wetland Delineation Manual*.

U.S. Census Bureau (USCB). 2000. Urbanized Area Fact Sheet (Census 2000) Americus, GA, http://factfinder.census.gov/servlet/SAFFFacts?_event=Search&geo_id=&_geoContext=&_street=&_county=Americus&_cityTown=Americus&_state=04000US13&_zip=&_lang=en&_sse=on&pctxt=fph&pgsl=010&show_2003_tab=&redirect=Y. USCB. 2009. 2005-2007 American Community Survey 3-Year Estimates. http://factfinder.census.gov/. Accessed August 4, 2009.

U.S. Department of Agriculture (USDA)/ Natural Resources Conservation Service (NRCS). 2008. *Web Soil Survey (WSS)*. http://websoilsurvey.nrcs.usda.gov/app/ Modified November 13, 2008. Accessed July, 2009.

USDA/NRCS, 2009. Plants Database – Wetland Indicator Status, http://plants.usda.gov/wetland.html August, 2009.

U.S. Department of Housing and Urban Development (HUD), 2009. Memorandum – HOME Program Income Limits – 2009, March27, 2009.

U.S. Department of Interior National Park Service (NPS), 2009, National Register of Historic Places (NRHP), http://www.nps.gov/history/nr/research/ http://nrhp.focus.nps.gov/natreg/docs/Download.html

U.S. Environmental Protection Agency (EPA), 2009. Kinchafoonee-Muckalee Watershed – 03130007 http://georgiainfo.galileo.usg.edu/physiographic/physio-dist.htm

U.S. Fish and Wildlife Service (USFWS). 2009. *Georgia: List of Threatened and Endangered Species by County – Updated 2004.* http://www.fws.gov/athens/endangered/counties/sumter_county.html Accessed August 7, 2009.

USFWS. 2009. *National Wetlands Inventory Maps*. http://www.fws.gov/wetlands/Data/mapper.html. Through "The National Map" http://nmviewogc.cr.usgs.gov/viewer.htm Accessed July 25, 2009.

U.S. Geological Survey (USGS), 1986. National Water Summary – Ground Water Quality: Georgia.

U.S. Geological Survey (USGS), 2009. Georgia Geologic Map Data, http://tin.er.usgs.gov/geology/state/sgmc-unit.php?unit=GAEOc;1 Digitized Geological Map of Georgia: after Lawton, D.E., and others, 1976, Geologic Map of Georgia: Georgia Geological Survey, scale 1+500.000, Accessed August 3, 2009.

University of Georgia (UGA), 2005, UGA Tifton Campus NESPAL River Basin Fact Sheet 2 – River Basins of Georgia, http://nespal.cpes.peachnet.edu/SIRP/research/WatershedFactsheet2.pdf April 4, 2005

Wisham, Hershel, 2009, Personal communication, Phoebe Sumter Medical Center, Plant Manager, August, 2009.

Young, Mandy R., 2009, City of Americus Community & Economics Development Director, Personal communication, August 10, 2009