

**William Jennings Bryan Dorn VA Medical Center
Columbia, South Carolina
Replace Boiler Plant/CoGen/CHP**

VA Project # 586-09-112
HSH Project # 11021

Environmental Assessment

Pre-Draft Submittal Date: 09/21/11

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List of Acronyms

ARPA	Archeological Resources Protection Act
AST	Above Ground Storage Tank
AT/FP	Antiterrorism/Force Protection
BMPs	Best Management Practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
EA	Environmental Assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
NAAQS	National Primary and Secondary Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Agency
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
PPA	Pollution Prevention Act
RCRA	Resource Conservation and Recovery Act
SF	Square Feet
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SPCC	Spill, Prevention, Control and Countermeasure

USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VA	U.S. Department of Veterans Affairs
VAMC	VA Medical Center
VHA	Veterans Health Administration

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1.0 Purpose and Need

1.1 INTRODUCTION

The intent of this project is to provide design, contract administration, and commissioning of a new fully functional medical center boiler plant as a result of a review and analysis of the Existing Boiler Plant Building. The study outlined the feasibility of adapting the existing facility in regard to available space, vertical restrictions and limitations imposed by the building's historic designation for the replacement of 4 new boilers. The study concluded that the existing facility could not feasibly adapt to accommodate 4 new replacement boilers and the design and construction of a new boiler plant facility was recommended.

The intent is for the new facility to house two new 500 BHP boilers, a relocated 400 BHP fire tube summer boiler, and provide space for a future 300 BHP boiler in order to improve the efficiency of the medical center's boiler plant facility.

Per ASHRAE 90.1-2007, section 2.3.c, the provisions of ASHRAE 90.1-2007 do not apply to equipment and portions of building systems that use energy primarily to provide for industrial, manufacturing, or commercial processes.

To evaluate and address the potential environmental impacts of this action, a program-wide analysis has been prepared in accordance with the National Environmental Policy Act (NEPA). This analysis document can be obtained through the William Jennings Bryan Dorn VA Medical Center, Engineering Department.

1.2 SCOPE OF ENVIRONMENTAL ANALYSIS (EA)

The program-wide analysis provides an overall assessment of impacts of the proposed action from a programmatic, or national, perspective and identifies the key regulatory requirements under which the NEPA process must be implemented.

This site-specific analysis has been prepared in the same accord as the program-wide analysis, but it will focus on the environmental issues that are specific to the William Jennings Bryan Dorn VAMC surroundings and existing environmental resources beyond what is considered in the program-wide analysis. The William Jennings Bryan Dorn VAMC is located at 6439 Garners Ferry Road, in Columbia, South Carolina, and will herein be referred to as the Dorn VAMC. The focus of this EA is the potential effects of the Proposed Action on existing conditions related to cultural resources, aquatic resources, solid and hazardous materials and wastes, as well as terrestrial natural resources.

The Council on Environmental Quality (CEQ) develops implementation regulations and oversees the efforts of federal agencies as they implement their NEPA programs. CEQ issued NEPA implementation regulations in 1978, which are included in Title 40, Code of Federal Regulations.

(CFR), Parts 1500-1508. This site-specific EA is tiered from the program-wide analysis and complies with the NEPA, CEQ regulations, and VA regulations for implementing the NEPA (38 CFR Part 26). It also addresses all applicable laws and regulations, including but not limited to the following:

- National Historic Preservation Act (NHPA)
- Archeological Resources Protection Act (ARPA)
- Clean Air Act (CAA)
- Clean Water Act (CWA)
- Endangered Species Act (ESA)
- Pollution Prevention Act (PPA)
- Source Conservation and Recovery Act (RCRA)

The program-wide analysis is included as Appendix A of this site-specific EA. The draft site-specific EA will be made available to local, state, federal, and tribal government agencies for a 30-day comment review period to meet the intent of National Environmental Policy Act (NEPA) and 38 CFR 26.9. Agency coordination and scoping comments will be included in Appendix B of the Final EA.

1.4 PUBLIC INVOLVEMENT

No public meetings have been conducted for this EA. However, the W.J.B. Dorn VA Medical Center will provide the public an opportunity to review and comment on the EA, prior to the issuance of the Final EA. A public notice announcing the availability of the Draft EA, the length of the comment period, and where copies of the draft can be obtained will be placed in local newspapers.

1.5 SUPPORTING DOCUMENTS

The following documents were prepared as part of the programming and design process for the Project. These documents further define the Project intent and scope. They can be reviewed by contacting the William Jennings Bryan Dorn VA Medical Center, Engineering Department

- Programming and Preliminary Design Drawings and Narratives
- 100% Construction Document Drawings
- 100% Construction Document Specifications
- Air Quality Permit Application (included in Appendix of the document)
- Geotechnical Analysis
- Topographic and Utility Site Survey

2.0 ALTERNATIVES

2.1 Existing Boiler Plant Building

The intent of this section is to provide review and analysis of the Existing Boiler Plant Building relative to installation of four (4) replacement boilers. The existing building was reviewed with regard to available space, vertical restrictions and limitations imposed by the building’s historic designation.

The Existing Building consists of load bearing masonry, cast in place concrete columns, large single pane industrial style windows, metal truss and concrete roof structure, and a ballasted roof system. The Building includes a basement level, which partly extends under the existing parking lot to the southwest of the building, and a newer addition on the northwest elevation. The basement level boiler room is approximately 37’-0” by 58’-0” and houses four existing boilers. The ceiling of the boiler room proper is open to the metal truss roof structure. The boiler room proper floor slab is located 12’-0” below finished grade. Existing boilers are located at this level.

2.2 Water-Tube and Fire-Tube Boiler Physical Attributes

For the purposes of this study, two different boiler types were analyzed; 22.5 ton fire-tube boilers and 25 ton water-tube boilers. The proposed fire-tube boilers are approximately 11’-0” long by 22’-0” wide and the proposed water-tube boilers are approximately 10’-0” wide by 14’-0” long. Both boilers types require a 19’-0” vertical clearance (boiler height plus pipe clearance). A summary of the physical attributes associated with each boiler type is provided below.

	Water-tube (Cleaver Brooks Model CBND-20P-35)	Fire-tube (Cleaver Brooks Model CBLE 200-600-150ST)
Boiler		
Capacity	20,000 lb/hr	20,000 lbs/hr
Width	10 feet	11 feet
Height	12 feet	12 feet
Length	14 feet	22 feet
Estimated space required above boiler for piping	10 feet	8 feet
Weight	50,000 lbs	45,025 lbs
Economizer		
Width	5 feet	5 feet
Height	6 feet	6 feet
Length	5 feet	5 feet
Weight	2,105 lbs	2,105 lbs

2.3 General Assessment

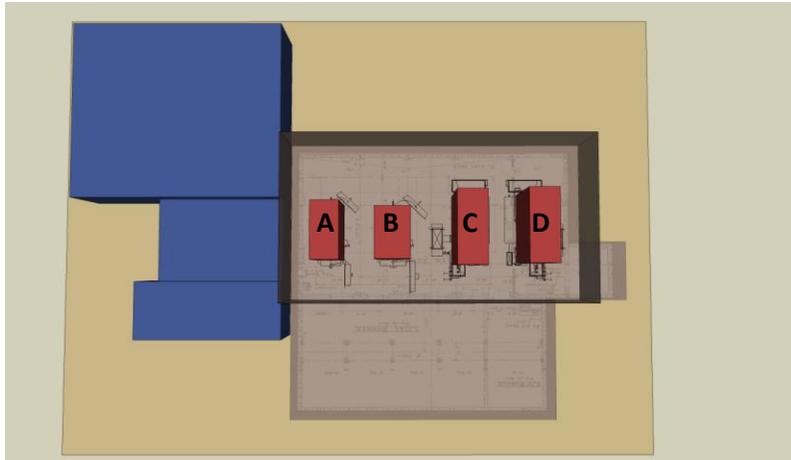
There are three (3) significant issues which would restrict installation of new boilers in the Existing Boiler Plant Building;

- To facilitate installation, removal, and maintenance, the proposed boilers should be installed on a new concrete slab at finished grade. A new concrete floor slab, at or near finish grade, would require approximately 1,300 tons of structural fill and 40 cubic yards of concrete, at an estimated cost of \$60,000.00 (including labor and materials). A new reinforced concrete retaining wall would also be required to maintain access to existing basement spaces. This wall would be approximately 12'-0" high and 100'-0" long, at estimated cost of \$40,000 dollars. So that the Hospital has boiler service throughout the life of the project, all work would have to be phased. Given the difficult nature of constructing a new retaining wall around existing boilers and piping, as well as the logistics and redundancy associated with filling and shoring in phases, it is estimated that the total cost for the new structure (exclusive of the boilers) would be approximately \$300,000.00.
- In order to remove and install the proposed boilers, new overhead doors, should be installed in the building facade. However, the existing Boiler Plant Building, built between 1925 and 1949 and designed by J.E. Miller, is listed in the National Register of Historic Places (2009 - #09000062) as a Colonial Revival style healthcare facility. This registration restricts interior and exterior alterations to the building. Installation of new overhead doors would be considered an adverse effect per document 36 CFR Part 800 and would not be permitted.
- The proposed boilers must have a minimum vertical clearance of 19'-0". If the floor slab is raised so that it is closer to finished grade, the available vertical clearance is decreased to 16'-8". This conflict cannot be resolved since the historic designation restrictions will not permit alteration of the roof elevation.

2.4 Conclusion

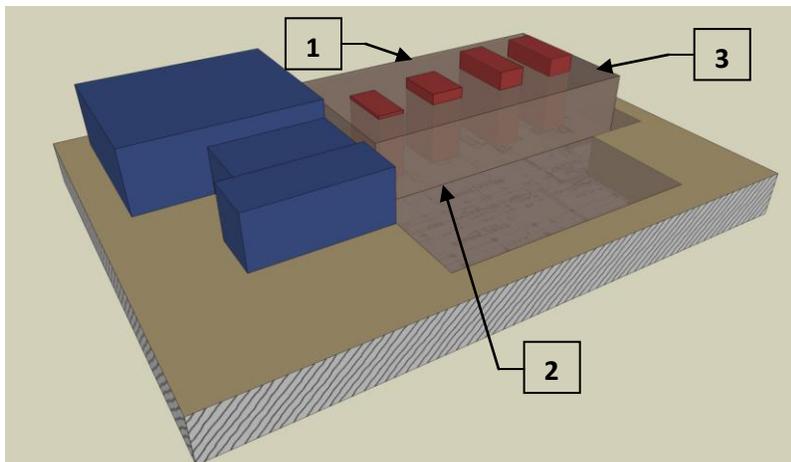
Due to vertical clearance restrictions, historic designation restrictions, and costs associated with installing the proposed boilers on a new floor slab at or near finished grade; it is apparent that the existing Boiler Plant Building cannot be renovated to accommodate new boilers.

2.5 Existing Building Model

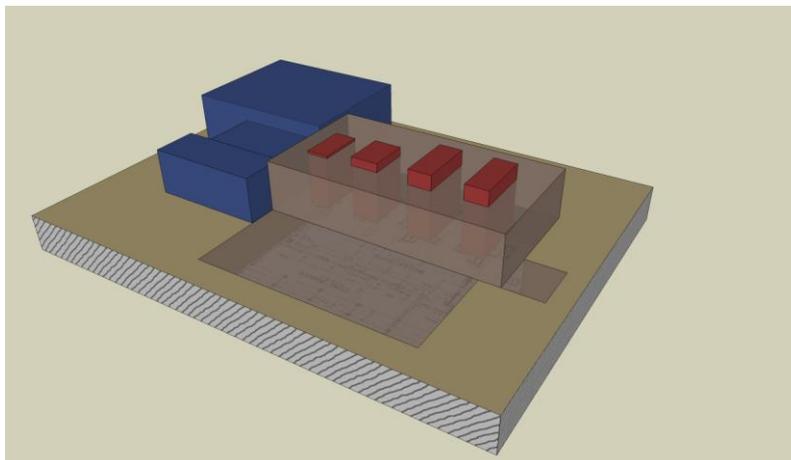


- A** – Future 300 BHP boiler
- B** – Relocated 400 BHP boiler
- C** – Proposed 500 BHP boiler
- D** – Proposed 500 BHP boiler

Note: Dimensions for fire tube and water tube boilers are comparable.



- 1.** – Boiler plant proper
- 2.** – Proposed new floor slab at grade
- 3.** – Lowest elevation of existing roof structure.



As shown in the adjacent diagram, if a new floor slab is provided at or near the elevation of the existing grade, the proposed boilers would conflict with the existing structure. This conflict cannot be resolved due to Historic Registry Requirements which will not permit a change in the existing building height.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 NOISE

3.1.1 AFFECTED ENVIRONMENT

The potential impacts of noise associated with the construction and operation of a Boiler Plant are addressed in the program-wide analysis (Appendix A). The Dorn VAMC provides hospital care and medical services to veterans and maintaining a serene environment for patients is important. Noise is generally regulated by a local ordinance that is established by a village, town, or city, or other local jurisdiction. Noise ordinances often relate to land use zoning with different maximum levels prescribed for residential, commercial, and industrial areas. Some noise ordinances impose restrictions by time of day with reduced noise levels during nighttime hours.

3.1.2 ENVIRONMENTAL CONSEQUENCES

The various equipment options and related activities associated with the Proposed Action are expected to result in only minor increases in noise levels for the operation of a Boiler Plant Building. Short-term but measurable increases in noise levels are expected during construction. The relationship between noise level and distance from a vehicle is evaluated under a worst-case scenario in the program-wide analysis, and the traffic associated with the proposed fueling would not have a significant noise impact at any sensitive receptor. Additionally, the proposed boiler plant building at the Dorn VAMC would be located where facility operations and maintenance are collocated, which is set apart from the patient care buildings.

3.1.2.1 PROPOSED ACTION

None Identified.

3.1.2.2 NO ACTION ALTERNATIVE

Not Applicable

3.2 AESTHETICS AND VISUAL RESOURCES

3.2.1 AFFECTED ENVIRONMENT

The significance of potential effects on aesthetics and visual resources is based on the level of sensitivity in the areas affected by the Proposed Action. Visual sensitivity is defined as the degree of public interest in a

visual resource and the concern over potential adverse changes in the quality of that resource. The Dorn VAMC campus is in an urban setting with the hospital and other medical facilities on maintained, landscaped grounds. Some areas of the campus may have historically significant buildings or structures that are currently listed, or are eligible for listing, on the National Register of Historic Places, or they may be recognized by state historical preservation agencies. Cultural and historical resources at the Dorn VAMC are discussed in Section 4.6.

3.2.2 ENVIRONMENTAL CONSEQUENCES

None identified.

3.2.2.1 PROPOSED ACTION

None required.

3.2.2.2 NO-ACTION ALTERNATIVE

Not Applicable

3.3 AIR QUALITY

3.3.1 AFFECTED ENVIRONMENT

The following tables provide data relative to anticipated emissions for the proposed boilers. Additional information can be found in the Air Quality Permit Application provided in the Appendix. In general, the proposed boilers replace existing and do add emissions. Furthermore, because the proposed boilers and their controls are more efficient than the existing boilers, over the long term, emissions are actually reduced.

Standard- Burner Emissions Values (in ppm, ref. @ 3% O₂, dry) **(Existing Boilers)**

	Natural Gas	#2 Oil	#6 Oil
NOx	83	961	340
CO	50	100	100
SO2*	Nil	28	30
VOC	9.58	11.98	14.37
PM10	7	50	100

**“Low-NOx”- Burner Emissions Values (in ppm, ref. @ 3% O₂, dry)
 (Proposed Boiler Option)**

	Natural Gas	#2 Oil	#6 Oil
NOx	30	781	3002
CO	50	100	100
SO2*	Nil	28	30
VOC	9.58	11.98	14.37
PM10	7	50	100

**“Ultra Low-NOx” Burner Emissions Values (in ppm, ref. @ 3% O₂, dry)
 (Proposed Boiler Option)**

	Natural Gas	#2 Oil	#6 Oil
NOx	9	781	NA
CO	50	100	NA
SO2*	Nil	28	NA
VOC	9.58	11.98	NA
PM10	7	50	NA

1 Based on a fuel-bound Nitrogen content not exceeding 0.02% (by weight).

2 Based on a fuel-bound Nitrogen content not exceeding 0.40% (by weight).

**Based on a sulfur content not exceeding 0.2 grains of Sulfur per 100 CUFT of natural gas OR 0.5% (by weight) for fuel oils.

The above values are based on industry averages and may or may not represent requirements for any given region of the United States. Emissions regulations vary from state-to-state. Emissions for firing waste gases, solid fuels, wood, etc., are handled on a case-by-case basis depending on project specifications. “Ultra-Low-NOx” burner solutions (i.e.-lower than 30 lb/mmbtu NOx) are analyzed on a case-by-case basis as well.

3.3.2 ENVIRONMENTAL CONSEQUENCES

Because existing boilers are being replaced on a one to one basis, with new, more efficient equipment. It is expected that construction and operation of the proposed boiler plant will not have a negative impact on air quality.

3.3.2.1 PROPOSED ACTION

None Required.

3.3.2.2 NO-ACTION ALTERNATIVE

Not Applicable.

3.4 SOCIOECONOMICS

3.4.1 AFFECTED ENVIRONMENT

The program-wide analysis defines socioeconomic aspects of the environment, including those pertaining to environmental justice and disproportionate risks to children, and identified laws and regulations affecting these resources. In brief, socioeconomics comprises the basic attributes and resources associated with the human environment, particularly population and economic activity. Economic activity typically encompasses employment, personal income, and economic growth. Factors that affect these fundamental socioeconomic components also influence other issues such as housing availability and the provision of public services. The Dorn VAMC is located in the eastern part of Columbia, South Carolina.

Columbia is the state capital and largest city in South Carolina. As of the census of 2000, there were 113,278 people, 42,245 households, and 22,136 families residing in the city. The population density was 928.6 people per square mile (358.5/km²). There were 46,142 housing units at an average density of 368.5/sq mi (142.3/km²). The racial makeup of the city was 49.22% White, 45.98% African Americans, 1.73% Asian, 0.25% Native American, 0.09% Pacific Islander, 1.36% from other races, and 1.36% from two or more races. Hispanic or Latino of any race were 3.03% of the population.

There were 42,245 households out of which 25.4% had children under the age of 18 living with them, 31.5% were married couples living together, 17.6% have a female householder with no husband present, and 47.6% were non-families. 37.0% of all households were made up of individuals and 9.8% had someone living alone who was 65 years of age or older. The average household size was 2.21 and the average family size was 2.97.

In the city the population was spread out with 20.1% under the age of 18, 22.9% from 18 to 24, 30.1% from 25 to 44, 16.6% from 45 to 64, and 10.3% who were 65 years of age or older. The median age was 29 years. For every 100 females there were 96.2 males. For every 100 females age 18 and over, there were 93.4 males.

The median income for a household in the city was \$31,141, and the median income for a family was \$39,589. Males had a median income of \$30,925 versus \$24,679 for females. The per capita income for the city was \$18,853. About 17.0% of families and 22.1% of the population were below the poverty line, including 29.7% of those under the age of 18 and 16.9% ages 65 or older.

3.4.2 ENVIRONMENTAL CONSEQUENCES

None Identified.

3.4.2.1 PROPOSED ACTION

None Required.

3.4.2.2 NO-ACTION ALTERNATIVE

Not Applicable.

3.5 TRANSPORTATION

3.5.1 AFFECTED ENVIRONMENT

The Dorn VAMC is located on a campus that is convenient to the surrounding community. The campus has a network of roadways accessible through multiple entry points and parking areas distributed around the hospital and other medical facilities. The campus is located within easy access to I-77. Campus facilities providing infrastructure support are set apart from other facilities. The VAMC currently maintains a boiler plant, emergency generators, and already receives regularly scheduled fuel deliveries.

3.5.2 ENVIRONMENTAL CONSEQUENCES

None Identified.

3.5.2.1 PROPOSED ACTION

None Required.

3.5.2.2 NO-ACTION ALTERNATIVE

Not Applicable.

3.6 CULTURAL AND HISTORICAL RESOURCES

3.6.1 AFFECTED ENVIRONMENT

The program-wide analysis provides definitions of cultural and historical resources, and in general terms, describes the federal and state regulatory frameworks that are responsible for managing and protecting

these resources. As noted in the program-wide analysis, the National Historic Preservation Act of 1966 (NHPA) is the primary federal law that implements regulations affecting cultural and historical resources, and encourages states to develop programs supporting historic preservation. The State Historic Preservation Office (SHPO) of South Carolina is the agency responsible for cultural and historical resources within the state, which includes reviewing potential impacts from new federal projects (<http://shpo.sc.gov/>).

As part of the review process for this site-specific EA, a consultation letter will be sent to the SHPO to ascertain whether there are any cultural and historical resources of concern in the vicinity of the proposed project area. The Dorn VAMC is located in the southeast part of Columbia, South Carolina, where it is surrounded mainly by residential and business districts. The nearest listed NRHP property to the VAMC is the Woodlands property located approximately ¼ mile to the west of the campus facilities. The locations of other culturally significant properties as well as important archeological sites will be identified pending SHPO review of the project.

Some VAMCs built in the early 20th Century have historically significant buildings or structures that are currently listed, or are eligible for listing, on the NRHP, or they may be recognized by the SHPO. However, most VAMCs have areas developed for facility infrastructure, such as boiler plants and storage areas, are usually set apart from hospital and other patient care buildings.

3.6.2 ENVIRONMENTAL CONSEQUENCES

None Identified.

3.6.2.1 PROPOSED ACTION

None Required.

3.6.2.2 NO-ACTION ALTERNATIVE

Not Applicable.

3.7 GEOLOGY AND SOILS

3.7.1 AFFECTED ENVIRONMENT

The program-wide analysis provides a definition of geological resources including soils, and discussed how these resources are usually characterized. Geological resources typically consist of surface and subsurface materials and their inherent properties. Soil structure, elasticity, strength, shrink-swell potential, and erodibility all determine the suitability of the ground to support buildings and structures. With respect to construction, soils are typically described in terms of their type, slope, physical characteristics, and relative compatibility or limitations with regard to particular construction activities and types of land use.

The site is located in the Piedmont Physiographic Province of South Carolina. The soils in the Piedmont Province consist mainly of residuum with underlying saprolites weathered from parent migmatitic granitic gneiss bedrock, which can be found in both weathered and unweathered states. Although the surficial materials normally retain the structure of the original parent rock, they typically have a much lower density and exhibit strengths and other engineering properties of soil. In a mature weathering profile of the Piedmont Province, the soils are generally found to be finer grained at the surface where more extensive weathering has occurred. The particle size of the soils generally becomes more granular with increasing depth and gradually changes first to weathered and finally to unweathered parent bedrock. The mineral composition of the parent rock and the environment in which weathering occurs largely control the resulting soil's engineering characteristics.

3.7.2 ENVIRONMENTAL CONSEQUENCES

None Identified.

3.7.2.1 PROPOSED ACTION

None Required.

3.7.2.2 NO-ACTION ALTERNATIVE

Not Applicable.

3.8 GROUNDWATER AND WATER QUALITY

3.8.1 AFFECTED ENVIRONMENT

The program-wide analysis provides a definition of groundwater resources and water quality, and in general terms, described the state and federal regulatory authorities responsible for administering these resources. In South Carolina, the Department of Health and Environmental Control, Bureau of Water manages and regulates groundwater issues (<http://www.scdhec.gov/environment/water/reg.htm>). Most groundwater protection programs within the Bureau of Water focus on the protection of the quality and quantity of South Carolina's groundwater resources.

The Dorn VAMC is located about two miles to the east of the Broad River, in Columbia, South Carolina. Based on its proximity, groundwater flow in vicinity of the VAMC facility is likely toward the Broad River.

3.8.2 ENVIRONMENTAL CONSEQUENCES

None Identified.

3.8.2.1 PROPOSED ACTION

None Required.

3.8.2.2 NO-ACTION ALTERNATIVE

Not Applicable.

3.9 WETLANDS, FLOODPLAINS, AND SURFACE WATERS

3.9.1 AFFECTED ENVIRONMENT

The program-wide analysis provides definitions of wetlands, floodplains and surface waters, and in general terms, described the state and federal regulatory authorities responsible for administering these resources. Wetlands are not regulated by the state in South Carolina. The Charleston District, U.S. Army Corps of Engineers is responsible for federal regulation of wetlands in this region, under Section 404 of the federal Clean Water Act.

According to National Wetland Inventory (NWI) mapping, there are no vegetated wetlands on or directly adjacent to the Dorn VAMC campus. Several small parcels of palustrine shrub-scrub wet-lands (indicated as PSS1B) and one parcel of palustrine forested wetlands (indicated as PFO1A), however, are mapped several miles to the east of the campus (Figure 4-1). According to floodplain maps issued by the Federal Emergency Management Agency (FEMA), the Dorn VAMC is outside of any area that would be inundated by a 100-year flood (Figure 4-2).

3.9.2 ENVIRONMENTAL CONSEQUENCES

Construction of the proposed building and associated site improvements will necessarily change existing storm water flow, retention, and run-off.

3.9.2.1 PROPOSED ACTION

Proposed site work is comprised of two primary elements. This new plant will be constructed over the existing parking lot causing that lot to be displaced. The second most significant element will be the replacement of the 23 car parking lot. In the construction of these two elements site service and access roads will be reconfigured. A new access road will be developed from the northern corner of the site to the southernmost corner of the site providing access, loading and service to the proposed energy plant, access and connectivity to the new parking lot, and connection to East Woodlands Trail. This newly reconfigured access road will also provide maneuverability to the loading dock for the warehouse building #7 and connectivity as appropriate to the engineering offices and shops building #20, etc. as deemed appropriate by the VA.

The above surface improvements and vehicular areas will be designed consistent with the requirements to maintain separation from the mission critical elements. In most areas the separation will be provided by curbs or other physical barriers. In certain locations where secured access is needed, appropriate security gates will be provided.

In addition to the surface improvements described above, there are a number of site utilities affected by this development. A large storm sewer conducts campus storm drainage through the proposed building site, which will require relocation. This line is significant and active and will require relocation early in the construction process, not to impede the construction of the central energy plant. Also within the area are campus waterlines, water systems valves and other appurtenances that may be affected by construction and will be reviewed and addressed as the site plan is developed.

In addition to the utilities described above, the site will be designed to meet the stormwater management requirements of the Energy Independence and Security Act of 2007(EISA). Compliance with EISA requires incorporation a number of practices that may include porous paving, rainwater harvesting and/or bioretention. Final construction documents will be developed based on the Owner's recommended strategy for compliance.

3.9.2.2 NO-ACTION ALTERNATIVE

Not Applicable.

3.10 VEGETATION AND LAND USE

3.10.1 AFFECTED ENVIRONMENT

The affected environment for vegetation consists of those areas potentially subject to ground disturbance as a result of the Proposed Action. The program-wide analysis provides a description of the general land use categories. Management plans and zoning regulations determine the type and extent of land use allowable in these specific areas and often intended to protect specially designated or environmentally sensitive areas and sensitive noise receptors.

The Dorn VAMC is located in a relatively urban setting, consisting largely of man-made features such as buildings, parking lots, roads, lawns, etc. The majority of vegetation cover at the facility consists of existing parking lots and gravel road.

3.10.2 ENVIRONMENTAL CONSEQUENCES

None Identified.

3.10.2.1 PROPOSED ACTION

None Required.

3.10.2.2 NO-ACTION ALTERNATIVE

Not Applicable.

3.11 WILDLIFE

3.11.1 AFFECTED ENVIRONMENT

The program-wide analysis provides a definition of wildlife resources, and in general terms, described the roles and regulations administered by federal and state agencies responsible for the management of wildlife species. As part of this site-specific EA, the USFWS and South Carolina Department of Natural Resources will be consulted to identify wildlife species that potentially could be affected by the installation and operation of the new boiler plant building at the Dorn VAMC. Nonetheless, wildlife resources at the Dorn VAMC are likely to be minimal because of its relatively urban setting. Wildlife at the site would most likely consist of species that are very adaptable to human-influenced environments (eg. European starling; house sparrow; gray squirrel; woodchuck; house mouse, etc.).

3.11.2 ENVIRONMENTAL CONSEQUENCES

None Identified.

3.11.2.1 PROPOSED ACTION

Although responses from USFWS and the South Carolina Department of Natural Resources are pending, it is unlikely that wildlife resources or their habitats would be affected by the Proposed Action given the urban setting and the project footprint within a previously developed area.

3.11.2.2 NO-ACTION ALTERNATIVE

Not Applicable.

3.12 THREATENED AND ENDANGERED SPECIES

3.12.1 AFFECTED ENVIRONMENT

The program-wide analysis provides a definition of threatened and endangered species, and in general terms, described the roles and regulations administered by federal and state agencies responsible for the management of these species. As a part of this site-specific EA, the USFWS and the South Carolina Department of Natural Resources will be consulted to identify federal and state-listed threatened and endangered species that potentially could be affected by the installation of the new boiler plant building at the Dorn VAMC.

3.12.2 ENVIRONMENTAL CONSEQUENCES

None Identified.

3.12.2.1 PROPOSED ACTION

Although responses from USFWS and the South Carolina Department of Natural Resources are pending, it is unlikely that wildlife resources or their habitats would be affected by the Proposed Action given the urban setting and the project footprint within a previously developed area.

3.12.2.2 NO-ACTION ALTERNATIVE

Not Applicable.

3.13 SOLID AND HAZARDOUS MATERIAL AND WASTES

3.13.1 AFFECTED ENVIRONMENT

The program-wide analysis provides a general description of solid and hazardous materials and wastes that may be encountered on a VAMC campus. Potential sources of hazardous materials and wastes that may be encountered at the facility include, but are not limited to, USTs and ASTs; use, storage, and disposal of medical waste; materials suspected to contain asbestos or lead; and known spills and releases. Most VAMC facilities already have petroleum USTs and ASTs as part of their existing fueling capabilities, or that contain diesel fuel for emergency generators or fuel oil for boilers to provide heat. The Dorn VAMC currently has tanks used for gasoline and diesel on site. South Carolina regulations pertaining to USTs and ASTs are summarized in the Appendix for the program-wide analysis.

3.13.2 ENVIRONMENTAL CONSEQUENCES

None Identified or Anticipated.

3.13.2.1 PROPOSED ACTION

Federal and state regulations for petroleum ASTs are summarized in the Program-wide analysis. Impacts from hazardous materials and wastes at the Dorn VAMC are likely to be minimal providing that all appropriate state and federal regulations are followed. Excavation would be required for the installation of the UST, and subsurface investigation reports are forthcoming. If contamination is suspected or discovered,

then suspect soil would be field screened, segregated, sampled for disposal characterization, and disposed of appropriately following South Carolina regulation. Provided the new boiler plant building is properly sited, state and federal regulations are followed, and state-certified SPCC Plan is in place, then no significant impacts due to solid and hazardous materials or wastes are anticipated.

3.13.2.2 NO-ACTION ALTERNATIVE

Not Applicable.

END OF ENVIRONMENTAL ASSESSMENT