DOE/EA-1767

FINAL ENVIRONMENTAL ASSESSMENT
For The
VIRGINIA STATE ENERGY PROGRAM'S CEPHAS C&D WASTES BIOMASS PROJECT
RICHMOND, VIRGINIA

U.S. Department of Energy
National Energy Technology Laboratory

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TABLE OF CONTENTS

LIST OF ACRONYMS

AADT	Annual Average Daily Traffic
AR	Abrasion Resistant
CAA	Clean Air Act
C&D	Construction and Demolition
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
dB	Decibels
DCR	Virginia Department of Conservation and Recreation
DHR	Virginia Department of Historic Resources
DMME	Virginia Department of Mines Minerals and Energy
DOE	Department of Energy
DOT	Department of Transportation
DSS	Data Sharing System (relative to the Virginia Department of Historic Resources)
EA	Environmental Assessment
EDR	Environmental Data Resources
EIS	Environmental Impact Statement
E&S	Erosion and Sedimentation
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GHG	Greenhouse Gasses
HAPs	Hazardous Air Pollutants
HAZMAT	Hazardous Materials
HP	Horsepower
HRS	Hot Rolled Steel
FONSI	Finding of No Significant Impact
MEP	Mechanical Electrical and Plumbing (Engineer)
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
OEIR	Office of Environmental Impact Review
PFD	Perennial Flow Determination
PWA	Preliminary Wetland Assessment
SEP	State Energy Program
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SWPPP	Stormwater Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USGS	United States Geological Survey
VOCs	Volatile Organic Compounds
VDGIF	Virginia Department of Game and Inland Fisheries
VDEQ	Virginia Department of Environmental Quality
VDOT	Virginia Department of Transportation

1.0 SUMMARY

Cephas Industries (Cephas) is proposing to construct an open-loop biomass manufacturing facility in Richmond, Virginia. The demand for recycling construction and demolition (C&D) debris has rapidly increased in recent years prompting the construction of approximately 200 biomass manufacturing facilities nationwide, with more expected to be developed. Of particular value is the recycling of wood and woody material into biomass commodities that can be sold to end-users as an alternative fuel source. Studies have shown that the recycling of C&D debris serves to: produce energy, conserve landfill space, reduce the environmental impact of producing new materials, and reduce overall construction project expenses by lessening disposal costs.

The Cephas Open Loop Biomass Manufacturing Facility is a shovel-ready biomass project that would support the C&D and recycling industries in metropolitan Richmond. The proposed facility would be located on approximately 5.2 acres within the Broad Rock Industrial Park, which is located within the Richmond City limits south of the James River (Appendix 1). Development of the facility would include constructing an approximately 33,000 square foot metal building from recycled materials that would house the operational equipment (Appendix 2). The facility would have the capacity to accept and process 250-500 tons of C&D debris on a weekly basis, of which approximately 35% is expected to be biomass fuel.

Cephas applied for funding assistance from Virginia's State Energy Program (SEP) through the Virginia Department of Mines Minerals and Energy (DMME). DMME selected this project to receive a grant from the SEP. States can apply their SEP funds to a variety of activities related to energy efficiency and renewable energy. Recently, much of states' SEP funding came from the American Recovery and Reinvestment Act (Recovery Act) of 2009 (Public Law 111-5, 123 Stature 115; Recovery Act), in which Congress appropriated $3.1 billion to the Department of Energy (DOE or the Department) for SEP grants and from which Virginia received $70 million pursuant to a statutory formula for financial distribution.

Virginia recently informed the Department that it proposes to use $500,000 of its SEP funds as a grant to the Cephas project. In accordance with the National Environmental Policy Act (NEPA) DOE must complete a review of potential environmental impacts of projects funded under the SEP before deciding whether to allow states to use their funds for the projects they select. DOE prepared this environmental assessment (EA) to analyze the potential environmental impacts of the proposed biomass project and the no action alternative. This EA analyzes the following areas of potential environmental impacts: water resources, geology, topography, soils, vegetation, wildlife, air quality, noise, visual resources, archeological and historic resources, land use, environmental justice, and infrastructure.

1.1 Introduction and Background

Under the American Recovery and Reinvestment Act of 2009 (Public Law 111-5, 123 Stat. 115), DOE's - National Energy Technology Laboratory (NETL), on behalf of the Office of Energy Efficiency and Renewable Energy, is providing federal funding to states for the development of projects that further the objectives of the SEP. In Virginia, the state agency that selects projects for funding is the DMME. DOE must comply with the National Environmental Policy Act (NEPA) of 1969 (NEPA; 42 U.S.C. 4321 et seq.), Council on Environmental Quality regulations (40 CFR Parts 1500 to 1508), and DOE NEPA implementing procedures (10 CFR Part 1021) in deciding whether to allow states to use SEP funds for selected projects.

To comply with NEPA, DOE prepared this *Draft Environmental Assessment for the Virginia State Energy Program's Cephas C&D Wastes Biomass Project, Richmond, Virginia.* This EA examines the potential environmental consequences of the Proposed Action and also examines the No-Action Alternative, under

which DOE assumes that, as a consequence of a refusal to allow DMME to provide a grant to this project, Cephas would not proceed.

Cephas proposes to construct an open-loop biomass manufacturing facility in Richmond (hereafter the Proposed Project), and the DMME has selected it as eligible for funding from Virginia's SEP allocation.

The Proposed Action by DOE is to allow Virginia to use some of its SEP funds, as a grant, to assist in the funding of the Cephas biomass project, so that Virginia will meet its SEP objectives. DMME proposes to provide $500,000 in financial assistance to Cephas. Cephas estimates the total construction cost to be $1,260,000.

The demand for recycling C&D debris has rapidly increased in recent years prompting the construction of approximately 200 biomass manufacturing facilities nationwide, with more expected to be developed. Of particular value is the recycling of wood and woody material into biomass commodities that can be sold to end-users as an alternative fuel. Studies have shown that the recycling of C&D debris serves to: produce alternative energy, conserves landfill space, reduces the environmental impact of producing new materials, and reduces overall construction expenses by lessening disposal costs.

The Cephas Open Loop Biomass Manufacturing Facility is a shovel-ready biomass project that would support the C&D and recycling industries in metropolitan Richmond. The proposed facility would be located on approximately 5.2 acres within the Broad Rock Industrial Park, which is located within the Richmond City limits south of the James River (Appendix 1). Development of the facility would include constructing an approximately 33,000 square foot metal building from recycled materials that would house the operational equipment (Appendix 2). The facility would have the capacity to accept and process 250-500 tons of C&D debris on a weekly basis, of which approximately 35% is expected to be converted to biomass.

In addition to analyzing the Proposed Project, the No Action Alternative was also considered.

1.2 Purpose and Need

DOE

The purpose and need for DOE action is to ensure that SEP funds are used for activities that meet the statutory aims of Congress to improve energy efficiency, reduce dependence on imported oil, decrease energy consumption, or promote renewable energy. However, DOE's role is not to dictate how Virginia or DMME should allocate its funds among these objectives or select the projects the state pursues.

Virginia and Cephas

The purpose and need for Virginia and Cephas is to provide a needed service to the C&D industry within the Richmond Metropolitan area that does not presently exist. The Cephas facility would offer a more efficient means of managing C&D waste and ultimately promote the conservation of space in local landfills. Concurrently, the facility would manufacture biomass to provide local industries with an alternative energy source that, when consumed, would result in less environmental impact by releasing lower concentrations of greenhouse gasses. Furthermore, recycled C&D debris would be sold as a commodity to recycling facilities thereby strengthening the market for recycled materials. Lastly, the construction and operation of the Cephas facility would create green jobs in the Richmond area and thus support needed economic development and growth.

1.3 Scope of This Environmental Assessment

This EA presents information on the potential impacts associated with the distribution of a grant to Cephas Industries for the construction of a biomass manufacturing facility in Richmond. This EA was prepared in compliance with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 et seq.); the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations 40 CFR Parts 1500-1508; and DOE NEPA Implementation Procedures 10 CFR 1021.

This EA analyzes the following resource areas:

Natural Resources – including water resources, geology, topography and soils, vegetation and wildlife, air quality, and noise;

Cultural Resources – including visual resources and archeological resources;

Socioeconomic Resources – including land use, planning policies and control, and demographics and environmental justice;

Infrastructure – including roadways and traffic, potable water, stormwater management, sanitary sewer, energy system, solid waste, and hazardous material.

The following resource areas were not carried forward for further analysis:

- Geology – the proposed project is not underlain by, or located within and area of, significant geology;
- Wildlife – the project is not located within or adjacent to a wilderness area nor is the area surrounding the proposed project populated by threatened or endangered species;
- Archeological and Historic Resources – the project is not located adjacent to or in the vicinity of sites of archeological or historical significance;
- Land Use – the current zoning of the site and surrounding area coincides with the required zoning of the Proposed Project;
- Planning Policies and Controls – the proposed project is synchronous with the intended use stipulated by the City of Richmond Master Plan;
- Demographics and Environmental Justice – implementation of the Proposed Project would not result in disproportionately high and adverse effects on the health and/or environment of minority and/or low income populations.

As a result of this EA, if no significant impacts are identified, a Finding of No Significant Impact (FONSI) may be issued. If potential impacts are identified, an Environmental Impact Statement (EIS) may be required.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

DOE's Proposed Action is to allow Virginia to use its SEP funds for a grant to assist in the financing of the Cephas biomass project in order to facilitate Virginia's achievement of the objectives of SEP.

The Proposed Project is the construction of an open-loop biomass manufacturing facility within the City of Richmond that, through the importation and recycling of C&D debris, would generate biomass fuels to be sold to local businesses as an alternative energy source.

The proposed site is an approximately 5.2 acre parcel located within the Broad Rock Industrial Park, which is currently developed and operating as a Cephas Firewood Inc., a retail firewood distributor; as such, the property is presently zoned and permitted to receive wood and woody material for biomass production. The central area of the a site is currently devoid of vegetation and used for stockpiling material including woody debris and soil, with smaller piles of segregated materials also present. An unnamed tributary of Broad Rock Creek extends northward in close proximity to the eastern boundary but extends underground midway across the property. Current site improvements include a one story office trailer that is connected to public utilities including water, sanitary sewer, and electrical services. A detailed site map illustrating the current property conditions is included in Appendix 2. Site photographs are additionally included as Appendix 3.

Development of the site would include construction of a 33,000 square foot metal building from recycled materials that would house the processing equipment. C&D debris would be imported in bulk for processing into a chipped product for purchase and distribution to customers.

2.1.1 Facility Operations

The processing equipment associated with the Proposed Project would consist of conveyors, a shredder/grinder, a picking station, and a magnetic separator. The primary pieces of equipment include the following:

3660 CBI Grizzly Mill Feed Conveyor
Five (5) feet wide by 55 feet long, the conveyor has high sides and a channel frame. The belt rides in a bent steel trough that is constructed of one-quarter (1/4) inch abrasion resistant (AR) and hot rolled steel (HRS) plate and is protected with an AR side wear plate. The conveyor has an auxiliary loading area with high flared sides with a lagged head and self-cleaning tail pulleys. The belt is electrically driven. Legs are used, as necessary, to elevate the conveyor.

3660 CBI Grizzly Mill (400 HP)
An electrically driven, high performance, wood waste grinder that is capable of processing large diameter material.

3660 CBI Grizzly Mill Discharge Conveyor
Four (4) feet wide by 75 feet long, the conveyor belt rides in a bent trough the belt rides in a bent steel trough that is constructed of one-quarter (1/4) inch AR and HRS plate and is protected with an AR side wear plate. The conveyor is electrically driven and has a lagged head and self-cleaning tail pulleys. Legs are used, as necessary, to elevate the conveyor.

Overband Magnet
A 27-inch by 48-inch permanent magnet with support structure and an electrically driven motor; overband magnets are designed for suspension over a horizontal or inclined conveyor, or over the head pulley. The magnetic field extracts tramp ferrous metal from the conveyor which is then automatically removed and deposited into a skip or collection bin at the side of the conveyor.

In addition to the equipment detailed above, a series of excavators and loaders would be utilized to transfer C&D debris for processing and to load the end products for distribution.

2.2 No Action Alternative

Under the No Action Alternative, DOE would not allow Virginia to use its SEP funds for this project. DOE assumes for purposes of this EA that the project would not proceed without SEP funding. This assumption could be incorrect, but it allows for a comparison between the potential impacts of the project as proposed and the impacts of not proceeding with the project. Without the proposed project, the C&D industry, within the immediate vicinity of Richmond, would continue to operate without an alternative to disposing of debris in local landfills. Consequently, the reduction of available landfill space would likely result in a continued increase in disposal costs which would be incrementally conveyed into the costs of construction projects. Concurrently, the No Action Alternative would deprive the Richmond area of a supplier of an efficient, alternative fuel source to local businesses that would serve to reduce regional greenhouse gas emissions. Further, Virginia's ability to use its SEP funds for energy efficiency and renewable energy activities would be impaired, as would its ability to create jobs and invest in the nation's infrastructure in furtherance of the goals of the Recovery Act.

2.3 Alternatives Considered but Dismissed

Based on the current zoning and permitting of the primary site being synchronous with its proposed future use, alternative locations were not explored by Cephas. Additionally, the anticipated success of the facility is largely based on its location; therefore, alternative sites were not explored.

3.0 AFFECTED ENVIRONMENT

To determine if the actions of constructing the Cephas facility may have significant environmental impact effects, various resources were searched including an Environmental Database Resource Inc. (EDR) NEPACheck® Report (Appendix 4). Project review requests were also forwarded to relevant governmental agencies and site reconnaissance was conducted. Copies of the project review requests and the corresponding agencies' return correspondence are included as Appendix 5 and Appendix 6, respectively.

3.1 Natural Resources

3.1.1 Water Resources

Water resources will be defined collectively as surface water, stormwater, floodplains, and groundwater, respectively.

Surface Water (Wetlands)

Map and field inspection reveal an absence of perennial surface water bodies on the site of the Proposed Project. However, the results of a perennial stream assessment (PSA) and preliminary wetland assessment (PWA), previously completed by Cephas' consultant (Timmons Group), identified the presence of palustrine emergent wetlands and an associated intermittent stream channel in the southeastern area of the subject property (Appendix 7). The stream channel is largely fed by stormwater runoff and empties into Broad Rock Creek approximately 1,000 feet south of the area of projected disturbance. The results of the PSA and PWA were submitted to the City of Richmond and the United States Army Corp of Engineers for review. The USACE responded in correspondence dated June 3, 2010 that the Proposed Project would be covered by a Nationwide Permit 18 with a conditional statements pertaining to additional permitting that may be required.

Stormwater

As a result of the Proposed Action, stormwater would flow toward drop inlets and curb inlets that drain to subgrade storm sewer piping. Once collected, stormwater would gravity-flow to a bioretention area that discharges to the intermittent stream channel detailed above.

Floodplains

Flood Insurance Rate Map (FIRM) #510129-0077D, with an effective date of April 2, 2009, published by the Federal Emergency Management Agency (FEMA) for Richmond, Virginia, was used to determine if the subject property is located within a floodplain. According to the FIRM, the proposed facility is located within Zone X, which corresponds to areas outside the 0.2% annual chance floodplain. However, the floodplain for Broad Rock Creek, located south of the limits of disturbance, is a Special Flood Hazard Area and subject to inundation during a one percent (1%) chance flood event. Additionally, the stream channel for Broad Rock Creek is a designated Floodway Area where the channel and surrounding floodplain must be kept free of encroachment so that the one percent (1%) chance flood can be carried without substantial increases to flood heights. The subject FIRM is included in Appendix 1.

Groundwater

As reflected by the Geologic Map of Virginia (1993), the proposed facility is located within the Coastal Plain Physiographic Province in close proximity to the Fall Zone, which is the north-south trending boundary that separates the Coastal Plain from the Piedmont Physiographic Province (Legrand, 1988; Meisler et al, 1988). Based on the previous, the site of the proposed facility is expected to be underlain, in part, by an upper/unconfined to semi-confined aquifer that is underlain by a fractured bedrock aquifer.

No depth to groundwater data currently exists for the subject property; however, based on map and site inspection, groundwater is expected to flow to the south and east in the direction of Broad Rock Creek.

3.1.2 Geology, Topography and Soils

Geology

Previously stated, the site is located in the Coastal Plain Physiographic Province in relative close proximity to the Fall Zone, which is the north-south trending boundary that separates the eastward Coastal Plain Province from the westward Piedmont Province. In general, the Coastal Plain Province is underlain by a wedge of unconsolidated to semi-consolidated, predominantly clastic sedimentary rocks that consist of mostly of sand, silt and clay with lesser amounts of gravel and limestone. Coastal plain rocks thicken seaward from a feather edge along the Fall Zone and attain thicknesses ranging from approximately 3,500 to 6,500 feet along the coast. At the Fall Zone, the Coastal Plain formations overlie the older metamorphic, igneous and consolidated sedimentary rocks of the Piedmont Province (Legrand, 1988; Meisler et al, 1988).

As reflected by the Geologic Map of Virginia (1993), the site of the proposed facility is underlain by the Charles City, Windsor, and Bacons Castle formations, which are described below.

Charles City Formation – Interbedded sand silt and clay with minor gravel,

Windsor Formation – Interbedded gravel, sand, silt and clay,

Bacons Castle Formation – gravel grading upward into sand and clayey silt,

At depth, the subject site is further underlain by the Petersburg Granite of the Piedmont Physiographic Province which is generally described as pink to blue, faintly foliated, coarse grained granite with a high relative hardness. Currently, the depth to bedrock beneath the site is unknown.

Topography

The subject property is located within United States Geological Survey (USGS), 7½ minute Drewerys Bluff Quadrangle. As indicated by the corresponding 1994 USGS topographic quadrangle map, the proposed site is located at an approximate elevation of 150-160 feet above mean sea level and grades gently to the south toward Broad Rock Creek (Appendix 1).

As a result of activity associated with current operations, fill material has been deposited in the eastern southern and western areas of the subject property that has obscured the natural topographic gradient.

Soils

The following United States Department of Agriculture (USDA) website was reviewed for data on soils beneath the subject property:

http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

A copy of the corresponding soil map is included in Appendix 1.
The subject property is dominantly underlain by the Wateree sandy loam (53%), with 12 to 20 percent slopes while a lesser area (approximately 40%) is underlain by the Tetotum-Urban land complex, clayey substratum, with 2 to 6 percent slopes. The remaining 7% of the site, located in the disturbed area of construction found near the southwest boundary, consists of the Udorthents-Dumps complex, pits formation. A negligible area of the project site is covered by impervious surfaces. The soils beneath the site have not been classified by the United States Department of Agriculture as prime or unique farmland.

3.1.3 Vegetation and Wildlife

Vegetation

The subject property is located within an urban-suburban area where much of the land has been disturbed and/or developed. The majority of the site is absent of vegetation as a result of previous property development. Most remaining vegetation onsite and in the vicinity consists of grasses, shrubs, and some young and mature trees.

Wildlife

The existing wildlife onsite and in the vicinity of the property consists of species commonly found in urban settings, such as small birds, rats and squirrels.

Threatened and Endangered Species

The EDR NEPACheck® Report and the following resources were reviewed for information pertaining to threatened or endangered species in the vicinity of the subject property. A project summary was additionally forwarded to Virginia Department of Conservation and Recreation (DCR) Natural Heritage Review and the United States Fish and Wildlife Service (USFWS) for review and comment.

- U.S. Fish and Wildlife Service (http://ecos.fws.gov)
- Virginia Department of Game and Inland Fisheries (VDGIF), Fish and Wildlife Information Service (http://vafwis.org/fwis).

The reviewed resources and the response from DCR indicate that the subject property is not located within the vicinity of threatened or endangered species (Appendix 4 and Appendix 6). A response was not received from USFWS within the 60-day period allotted for agency review; accordingly, this lack of a response serves as an indication of no objection to the Proposed Project.

Wildlife Preserves

The EDR NEPACheck® Report and the following resources were reviewed for information pertaining to wildlife preserves in the vicinity of the subject property. A project summary was additionally forwarded to DCR and USFWS for review and comment.

- U.S. Fish and Wildlife Service (http://www.fws.gov)
- Virginia Department of Conservation and Recreation, Conservation Lands (http://www.dcr.virginia.gov)
- The Wilderness Information Network: National Wilderness Preservation System (http://www.wilderness.net.printNWPSsearch.cfm)

The reviewed resources and the response from DCR indicate that the subject property is not located within the vicinity of a wildlife preserve (Appendix 4 and Appendix 6). A response was not received from USFWS within the 60-day period allotted for agency review; accordingly, this lack of a response serves as an indication of no objection to the Proposed Project.

Wilderness Areas

The EDR NEPACheck® Report (Appendix 4) indicates that the subject property is not located within an officially designated wilderness area. In addition, the following resources were reviewed and project review requests were submitted to DCR and USFWS.

- National Wilderness Preservation System (http://www.wilderness.net),
- National Park Service (http://www.nps.gov/parks.html).

The abovementioned resources and the response from DCR indicate that the subject property is not located within a wilderness area. A response was not received from USFWS within the 60-day period allotted for agency review; accordingly, this lack of a response serves as an indication of no objection to the Proposed Project.

3.1.4 Air Quality

Air quality is defined by the concentrations of various air pollutants in the atmosphere. The significance of a pollutant concentration is determined by comparing the concentrations in the atmosphere to the applicable state or national ambient air quality standards, which represent the maximum allowable atmospheric concentrations that may occur and still protect public health and welfare with a reasonable margin of safety.

In response to the Clean Air Act (CAA) of 1970 and its subsequent amendments, the U.S. Environmental Protection Agency (USEPA) established the National Ambient Air Quality Standards (NAAQS) which establish the safe levels of exposure to seven (7) criteria air pollutants which include: ozone (O_3); carbon monoxide (CO); nitrogen dioxide (NO_2); sulfur dioxide (SO_2); lead (Pb); particulate matter, 10 microns or less (PM_{10}); and particulate matter, 2.5 microns or less ($PM_{2.5}$). In addition to the criteria pollutants, the USEPA is also concerned with, and regulates, hazardous air pollutants (HAPs) and toxic air pollutants including: metals, nitrogen oxides (NO_x), and volatile organic compounds (VOCs) in accordance with CAA policies.

Currently, the City of Richmond Metropolitan Area is in attainment with NAAQS for all criteria pollutants except ozone. As of January 22, 2010, Metropolitan Richmond has been designated by the USEPA as being located in an eight (8) hour ozone maintenance area, which is an area that has been redesignated to attainment for the 8-hour ozone standard.

Federally funded actions in a designated maintenance area must conform to the state or federal implementation plans; therefore, the responsible federal agency must determine that the action is either exempt from a conformity determination or show that the action conforms to the appropriate

implementation plan. Actions are exempt when the total of all predicted direct and indirect non-attainment emissions (i.e., ozone precursors) would be less than: 1) the specified emission rate (*de minimis*) and 2) ten percent (10 %) of the annual emissions budget for the region. The *de minimis* threshold for the maintenance of ozone is 100 tons per year for each of the precursors of ozone, volatile organic compounds (VOCs), and nitrogen (NO_x) outside of an ozone transport region.

Based on the nature of the Proposed Action, the following are the primary pollutants and sources of concern for human health in the region:

- the formation of ozone from vehicle VOC and NO_x emissions; and
- the generation of airborne particulate matter as PM_{10} from construction activities.

Ozone (O_3) is a colorless gas with a pungent odor that is created regionally from ground-level VOCs and NO_x emissions during periods of high temperature and sunlight, with vehicle emissions serving as the primary source. PM_{10} particulates are released and suspended in the air as dust and fumes originating from industrial and agricultural operations and/or from earthmoving and construction activity, primarily during dry, windy conditions.

3.1.5 Noise

Noise is generally defined as an unwanted or objectionable sound resulting from volume and/or pitch. Noise levels are measured and expressed in decibels (dB) that are weighted to sounds perceivable by the human ear, known as A-weighted sound level (dBA). Decibels range from zero (0) to 180 and are measured on a logarithmic scale; thus, increasing the number of noise sources does not increase the volume in the same proportion. Over a specific time period, noise levels are averaged and expressed as the noise level equivalent for that period (dBA L_{eq}).

Sensitive noise receptors are generally defined as those locations or areas where dwelling units or other fixed, developed sites of frequent human use occur; however, sensitive noise receptors may also relate to wildlife environments. Resource data indicate that the only potential sensitive noise receptors located within the area of the proposed facility, as defined, are the residential structures located approximately 650 feet north of the proposed facility at the northern boundary of Broad Rock Industrial Park.

Currently, the dominant noise source within the vicinity of the Proposed Action is vehicular traffic and associated noise from the surrounding roadways. Based on available resource data coupled with the posted speed limits on Hopkins Road Belt Boulevard (35 mph) and AADT volume, traffic noise would be expected to occur below 100dBA.

Once implemented, the dominant noise originating from the Proposed Action would be associated with construction activity; however, once completed, the dominant noise source would originate from the operation of the wood waste grinder. A diagram from the manufacturer illustrating the anticipated decibel levels associated with operations is included in Appendix 2.

As related to the Proposed Action, the (Municipal) Code of the City of Richmond Noise Control Regulations, Chapter 38, Section 31 (Enumeration of acts declared loud and disturbing noise) states that:

> *The creation of a loud and excessive noise in connection with loading or unloading any vehicle or the opening and destruction of bales, boxes, crates and containers (is unlawful).*

In addition, Chapter 38, Section 32 (Creation of a loud and disturbing noise) states:

It shall be unlawful to create or to assist in creating any unreasonably loud and disturbing noise in the city. Noise of such character, intensity and duration as to be detrimental to the life or health of any person or to unreasonably disturb the quiet, comfort or repose of any person is hereby prohibited.

3.2 Cultural Resources

3.2.1 Visual Resources

The visual character of the area must be evaluated for potential visual impacts relative to existing and proposed land use in the immediate vicinity of the Proposed Action. The area of visual influence is determined by estimating the visibility of the proposed facility to viewers from public spaces, with special consideration given to visually sensitive features located in the immediate area.

Visual Characteristics of the Surrounding Area Relative to the Proposed Action

The site of the Proposed Action is located along the western margin of Broad Rock Industrial Park. The subject property offers views of the surrounding roadways including Formex Road, Formex Street, the Hopkins Road/Belt Boulevard connector, and Hopkins Road (Appendix 3).

Formex Road is a two (2) lane public road located within Broad Rock Industrial Park that extends along the northern boundary of the project site; however, the road terminates at the northwestern corner of the subject property near Hopkins Road. The proposed facility would be visible from Formex Road (Appendix 3).

Formex Street is a two (2) lane public road that extends along the southern and eastern boundaries of the project site and serves as access to Broad Rock Industrial Park. The proposed facility would be visible from the northern extent Formex Street (Appendix 3).

Hopkins Road is a four (4) lane public road located along the western margin of Broad Rock Industrial Park which rises to cross over Belt Boulevard at an overpass located southwest of the site. The proposed facility would be visible from Hopkins Road, especially from the overpass (Appendix 3).

A two to four lane, unnamed, public road connects Hopkins Road to Belt Boulevard southwest of the site. The proposed facility would be visible from the connector road (Appendix 3).

The area beyond the proposed facility is predominantly industrial, except for a group of single family residences located south of the site at the intersection of Formex Street and Hopkins Road; however, a vegetative buffer, located north of the residences serves to obscure any view of the proposed facility from the residential structures (Appendix 3).

3.2.2 Archeological and Historic Resources

For the purpose of this EA, the term *"archeological resources"* refers to cemeteries and prehistoric or historic subsurface sites including buildings and structures that no longer exist. *"Historic resources"* refers to existing buildings, structures or objects, including historic districts.

Archeological Resources

Virginia Department of Historic Resources (DHR) Data Sharing System (DSS) records do not identify any archeological resources within a one-half (½) mile radius of the proposed facility (Appendix 8);

however, the 1969 United States Geological Survey (USGS) 7.5 minute, Drewrys Bluff, topographic quadrangle, revised 1994, indicates that (Civil War) battle trenches have been identified approximately 2,300 feet east of the project site.

Historic Resources

DHR DSS records (Appendix 8) identify one (1) historic resource site within a one-half (½) mile radius of the proposed facility as detailed below:

- The Hickory School – is located south of the project site and was constructed circa 1910. The building is colonial revival and of one (1) story frame construction with a standing seam metal roof.

Correspondence was forwarded to the State Historic Preservation Officer (SHPO) on April 30, 2010, requesting project review and comment.

A project summary and the results of the DSS survey were submitted to DHR for review and comment (Appendix 8). DHR responded that no historic properties will be affected (Appendix 6).

3.3 Socioeconomic Resources

3.3.1 Land Use

The Proposed Project is located in the Broad Rock Planning District of the City of Richmond, Virginia within Broad Rock Industrial Park. The site is comprised of three (3) contiguous parcels that are zoned M-1 (light industrial) and total approximately 5.2 acres. Broad Rock Industrial Park is located between Jefferson Davis Highway to the east and Hopkins Road/Belt Boulevard to the west, with adjacent areas of single family and multifamily housing located to the north and a buffer of undeveloped woodlands to the south with additional single family residences beyond.

3.3.2 Planning Policies and Controls

Based on the Richmond 2000-2010 Master Plan (Appendix 9), the site of the Proposed Action is synchronous with the City of Richmond intentions to consolidate and promote the development of industrial-use properties in existing industrial areas.

3.3.3 Demographics and Environmental Justice

The 2000 U.S. Census provides the basis for analyzing the demographic composition of the area around the project site. Executive Order 12898 requires federal agencies to: 1) identify any disproportionately high and adverse effects on human health or human environment of minority and/or low income populations resulting from federal programs, policies, and activities, and 2) identify alternatives that may mitigate these impacts.

In the Census, persons are self-identified as belonging to one or more racial subgroups: White; Black or African-American; American Indian and Alaska Native; Asian; Native Hawaiian or Other Pacific Islander; or Other Race. The Census also enumerates persons of Hispanic or Latino origin who may be of any race. While race does not imply specific behavioral patterns, this information is useful in understanding the demographic setting and identifying environmental justice communities of concern. Characterization of a group of persons as a potentially "affected community" requires the fulfillment of one of the three following criteria: 1) a minority population of the affected area that exceeds 50 percent;

2) a low-income population based on the Bureau of Census Current Population reports; or 3) a minority population significantly greater than the minority population percentage in the general population, or other appropriate unit of geographic analysis.

Certain cultural, social, occupational, historical, or economic characteristics of an affected community may amplify the environmental effects of an action; a population may be more sensitive and less resilient in adapting to the effects of an action than other communities. The distribution of the effects within a study area is important. Affected communities would be considered to experience high adverse impacts related to the action.

The following website was reviewed for demographic data.

http://www.city-data.com/neighborhood/Broad-Rock-Richmond-VA.html

In 2008, the Broad Rock Planning District had a population of approximately 25,300 distributed over an area of approximately 14,800 square miles, which translated to 1,706 people per square mile as opposed to the 2008 Richmond average of 3,293 people per square mile. The population in 2008 was predominantly comprised of African Americans and the median household income was approximately $1,700.00 below the City of Richmond average, which for 2008 was approximately $25,000.00 below the Virginia median household income. Property values for single family residences were below the median City of Richmond standards; however, the median rent was slightly above the city average.

As previously discussed, the most recent City of Richmond Master Plan details the proposed consolidation of industrial use properties in existing industrial areas. As such, the development of the property will not result in the displacement of residents.

3.4 Infrastructure

3.4.1 Roadways and Traffic

The roadway systems surrounding the project site consists of state highways, secondary roads and collector roads as detailed below. Based on location within the City of Richmond, however, the roadways surrounding the project site are not within the jurisdiction of VDOT or the U.S. Department of Highways.

Major Roadways

East Belt Boulevard (State Route 161) – provides east-west access between Broad Rock Boulevard (Route 10) and Bells Road – the latter of which provides direct access to Interstate 95 (I-95). East Belt Boulevard is a four (4) lane, divided highway that borders Broad Rock Industrial Park to the west.

Hopkins Road – provides north-south access between Jefferson Davis Highway (U.S. Route 1) to the north and Chippenham Parkway to the south – the latter of which connects directly to I-95. Hopkins Road is a two (2) to four (4) lane medium to heavy duty road with designated left turn lanes.

Minor Roadways

Formex Street – is a north-south collector road that extends between Formex Road and East Belt Boulevard that provides direct access to the project site.

Formex Road – is an east-west collector road that extends along the northern boundary of the project site, thereby providing access, and connects to Formex Street.

The Virginia Department of Transportation (VDOT) – in cooperation with the U.S. Department of Transportation, Federal Highway Administration – completed daily traffic volume estimates for the major roadways within the City of Richmond that provide access to the project site (Table 3.1). The data reviewed for this EA was published in 2008. Based on the 2008 data, and communication with the City of Richmond, future traffic volumes are anticipated to increase 1% annually.

Table 3.1 – 2008 VDOT AADT volumes on the major peripheral roadways

Roadway	2008 AADT Volume
East Belt Boulevard (from Bells Road to Terminal Boulevard)	4,300
East Belt Boulevard (from Terminal Boulevard to Broad Rock Road)	6,100
Hopkins Road (from Walmsley Boulevard to Terminal Avenue)	8,800
Hopkins Road (from Terminal Avenue to Holly Springs Road)	8,800

In conjunction with the data above, Table 3.2 illustrates the percentage of heavy vehicle traffic on the major roadways that provide access to the project site.

Table 3.2 – Percentage of heavy traffic on the major peripheral roads

Roadway	bus	Truck		
		2 axle	3 axle	1 trailer
East Belt Boulevard (from Bells Road to Terminal Boulevard)	1%	1%	2%	4%
East Belt Boulevard (from Terminal Boulevard to Broad Rock Road)	1%	1%	2%	4%
Hopkins Road (from Walmsley Boulevard to Terminal Avenue)	0%	1%	0%	0%
Hopkins Road (from Terminal Avenue to Holly Springs Road)	0%	1%	0%	0%

Note: The data presented above is for year 2008.

Traffic Relative to the Proposed Action

The proposed facility would be staffed by a total of approximately 36 employees over the course of a typical workday including upper management, middle management and the labor force. In addition, the facility would be frequented by hauling contractors over the course of an average day.

3.4.2 Potable Water

The proposed facility would be connected to the eight (8) inch diameter City of Richmond municipal service pipeline that supplies Broad Rock Industrial Park. The City of Richmond draws its municipal water supply from the James River at a point located approximately four (4) miles from the site. The Proposed Action would require two (2) water service connections. The current one (1) inch diameter service connection would be re-routed to supply potable water to the facility building, including a misting system that would function to suppress dust generated by biomass production. Another six (6) inch diameter water service connection would supply the wet fire and dust suppression systems.

3.4.3 Stormwater Management

Stormwater flow across the existing facility is currently managed by absorption and/or overland sheet flow, with the latter most commonly occurring in conjunction with soil saturation during heavy storm events. Based on the current topography, minimal runoff likely occurs to the curb inlets located in Formex Road and/or Formex Street.

As a result of the Proposed Action, the site would be graded to direct stormwater flow to the north and east toward designated catchment areas. Drop inlets and curb inlets located within the catchment areas would further direct stormwater to subgrade piping that would convey untreated stormwater to a bioretention filter located in the central, southern area of the subject property. The bioretention filter is designed to discharge to the adjacent intermittent stream channel that transects the eastern area of the site and empties into Broad Rock Creek approximately 700 feet south of the proposed facility.

3.4.4 Sanitary Sewer

Wastewater from the onsite structure would gravity flow through a three (3) inch diameter service connection to the eight (8) inch diameter City of Richmond sanitary sewer main that extends along Formex Road. In addition to gray water, effluent to the sanitary sewer would include drainage from the dust suppression system located in the vicinity of the wood waste grinder. Discharge would be in accordance with applicable permitting requirements.

3.4.5 Energy System

Natural Gas

A municipal natural gas service line extends beneath Formex Street and Formex Road; however, the proposed facility would not utilize natural gas.

Electricity

The site currently receives electrical service from Dominion Virginia Power Company through an underground service connection and an associated pad-mounted transformer. In conjunction with the Proposed Project, including the operation of electrically-powered industrial equipment, the electrical service would be upgraded from two (2) phase to three (3) phase which would include the associated replacement/upgrade of the existing pad mounted transformer onsite.

3.4.6 Solid Waste

The operation of the proposed facility would center on the management of solid waste in the production of biomass. Imported materials would be deposited within the warehouse structure for segregation, recycling, and preparation for use by end-users. Dumpsters would be located onsite for the deposition of unacceptable materials. Solid waste materials would not be stockpiled outside of the building so as to be exposed to weathering. The proposed facility is anticipated to process between 250 and 500 tons of C&D debris on a weekly basis.

3.4.7 Hazardous Materials

Limited volumes of hazardous materials may be used onsite in conjunction with facility construction. Additionally, minimal volumes of hazardous materials are expected to be used onsite following construction in association with facility operation and maintenance. The current facility presently

maintains a 500 gallon aboveground storage tank (AST) to store diesel fuel for the heavy equipment used onsite. The AST would likely be relocated onsite in conjunction with facility construction.

The Proposed Project does not include the storage, management, and/or treatment of hazardous materials. Materials unacceptable for recycling would be segregated from the biomass manufacturing stream and appropriately staged pending appropriate disposal.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Natural Resources

4.1.1 Water Resources

Alternative #1 – The Proposed Project

Although the subject property is largely denuded as a result of current site activity, grading and general land disturbance associated with facility construction would increase the potential for soil loading into the natural drainage channel onsite and the peripheral municipal stormwater management system, with resulting impact to Broad Rock Creek. Additionally, the operation of construction equipment onsite, with the associated need for fueling and maintenance, would provide a mechanism for potentially exposing onsite and peripheral water resources to petroleum and other chemical contaminants. Likewise, materials used in the construction of the proposed facility may offer potential adverse environmental effects to the local water resources. Based on the anticipated schedule, construction of the facility would require twelve (12) months for completion.

With the exception of groundwater resources, the implementation of the Proposed Project, as designed, would not present a significant risk to the local water resources. Aside from the proposed building footprint and the truck scales, the majority of the site would remain surfaced with pervious material to minimize stormwater runoff. However, the surfacing of the site with pervious materials also presents a potential risk to the underlying groundwater resources by offering minimal resistance to the infiltration of inadvertent releases of fuels and/or lubricants from commercial traffic entering the facility and/or the loading equipment used onsite.

Potential negative impacts to water resources associated with the implementation of the Proposed Project would be addressed through the application of the Virginia Erosion and Sediment Control Handbook (1992) minimum standards, including the implementation of a site specific Erosion and Sediment Control (E&S) Plan and a Stormwater Pollution Prevention Plan (SWPPP). Potential impacts to groundwater resulting from surface spills would likewise be addressed by the SWPPP during construction.

As a result of facility design, materials imported for recycling would be managed on a concrete pad and under a roof to limit the potential occurrence of water resource impact from runoff associated with precipitation events.

Stormwater runoff from pervious and impervious surfaces would be routed to the stormwater management system which, through the use of a bioretention structure, would be effective in minimizing potential downstream impacts to Broad Rock Creek and its floodplain. The bioretention structure would specifically serve to control discharge velocity from the stormwater management system thereby minimizing any potential changes to floodplain elevation.

Alternative #2 – No Action Alternative

Under the No Action Alternative, the Proposed Project would not be completed and the property would remain in its current condition with minimal improvements being implemented to effectively manage stormwater runoff and protect local water resources. Under this alternative, there would be no increased risk to water resources during the construction phase of the project. However, the objectives of the SEP and Recovery Act would also not be advanced.

4.1.2 Geology, Topography and Soils

Alternative #1 – The Proposed Project

The underlying geology is not anticipated to be affected with the implementation of the Proposed Project. Based on the project review by DCR, no significant geologic formations are located in the vicinity if the site.

The current topography of the site would be altered with facility construction; however, based on the topographic modifications that have occurred through the previous importing and stockpiling of soil by Cephas Firewood Inc., the Proposed Project should improve surface drainage through the implementation of a structured stormwater management system, which includes additional modification to the topography by uniformly grading of the area of disturbance.

Implementing the Proposed Project would affect the onsite soil conditions as excavation associated with site grading and facility construction would provide a mechanism for increased stormwater and wind erosion. As a result, eroded sediments could enter the existing municipal stormwater management system with subsequent transportation and discharge into Broad Rock Creek.

The provisions of the Virginia Erosion and Sediment Control Handbook (1992) would be implemented to minimize potential impacts from exposed, disturbed, and/or stockpiled soils resulting from grading, excavation and/or other construction activity. Based on regulatory requirements, an E&S Plan and SWPPP would be completed for the project prior to project implementation. The E&S Plan would detail measures to minimize and/or prevent the erosion of excavated soils, the transportation of eroded soils to surface water and the sedimentation of eroded soils within surface water; the SWPPP would, in part, address stormwater runoff.

Alternative #2 – No Action Alternative

Under the No Action Alternative, the Proposed Project would not be undertaken resulting in no effects to the topography or soil stockpiles currently occupying the subject property. Also, the objectives of the SEP and Recovery Act would not be advanced.

4.1.3 Vegetation and Wildlife

Alternative #1 – The Proposed Project

The implementation of the Proposed Project could result in temporary impacts to existing vegetation during grading and/or construction activity; however, any loss would be insignificant since the Proposed Project would not only include full restoration of any damaged areas but also the creation of newly vegetated areas.

Following construction, the operation of the facility would result in positive impacts to the vegetation of the area through the creation and maintenance of green space.

The Proposed Project would not adversely impact terrestrial wildlife and/or migratory birds, as construction would occur in a currently developed area that offers no critical habitat.

No adverse impacts to terrestrial wildlife and/or migratory birds are anticipated from the operation of the facility based on proximity to existing roadways and the current/existing development within the

surrounding area. To ensure the success of the landscaping plans, only native species would be used in all plantings.

Alternative #2 – No Action Alternative

Under the No Action Alternative, the current vegetation and wildlife features of the property would remain unchanged and areas of additional green space would not be created. Also, the objectives of the SEP and Recovery Act would not be advanced.

4.1.4 Air Quality

Alternative #1 – The Proposed Project

Implementation of the Proposed Project would likely result in temporary impacts to air quality based on the intermittent emission of five (5) criteria air pollutants from construction equipment including: carbon monoxide (CO), nitrogen oxides (NO_x), sulphur dioxide (SO_2), particulate matter (PM_{10}), and volatile organic compound (VOCs). Per CBI, the wood-waste grinder is electrically driven and would therefore operate with zero (0) emissions. Additionally, grinding operations would be contained within a warehouse structure equipped with a dust suppression system to minimize the dispersal of particulate matter.

The equipment to be used in conjunction with facility operations are detailed below along with corresponding emissions specifications. Based on an assumed daily operational period of six (6) intermittent hours per piece of equipment, emissions associated with implementation of the Proposed Project, including construction, are estimated to be below the *de minimis* threshold levels of 25 tons/year and less than ten percent (10%) of the projected annual area emissions. Therefore, the Proposed Project would be exempt from an air conformity determination.

Table 4.1 – Heavy equipment emissions data for the proposed project

Equipment	Horsepower	Manufactured Operating EPA Emission Standards	CO/NMHC+NO_x (g/kWh)
Bobcat S300 Loader	81	Tier 3*	5.0/4.7
Caterpillar 320D Excavator	148	Tier 3*	5.0/4.0
Caterpillar 972G Loader	285	Tier 3*	3.5/4.0

Notes: * per 69 FR 38957-39273 (January 2004)
CO = carbon monoxide
NMHC+NO_x = non-methane hydrocarbon and nitrogen

Fugitive dust can affect both environmental and public health. The severity of effects depends on the size and nature of the dust particles and the prevailing weather conditions. The effects to public health include the inhalation of particulate matter that can accumulate in the respiratory system causing various conditions including: persistent coughs, wheezing, eye irritations, and physical discomfort. However, the location of the Proposed Project within Broad Rock Industrial Park limits exposure to the general public to fugitive dust, as no sensitive receptor areas (e.g., hospitals and/or public parks) are located within the immediate vicinity. Furthermore, despite the area of disturbance for the project extending to Formex Road and within an average of 150 feet from Formex Street, the nearest single family residences are

located approximately 525 feet north of the northern limit of the area of disturbance. Additionally, the continued maintenance of a vegetative barrier along most of the perimeter of the area of disturbance would assist in minimizing the offsite migration of fugitive dust.

Appropriate measures would be implemented during construction activity to minimize construction equipment emissions including proper engine tuning and the avoidance of unnecessary idling. As necessary, dust suppression systems would also be implemented during construction.

The equipment to be used in conjunction with facility operations, mentioned above, would be used intermittently in conjunction with daily activity. The wood-waste grinder would be electrically powered and operate under a roof equipped with a dust suppression system to minimize the dispersal of particulate matter.

Based on the previous, a review of the site plan resulted in the Virginia Department of Environmental Quality (VDEQ) verbally expressing that an air permit would not be required.

Aside from operations, the facility would experience increased usage by commercial hauling contractors. Once construction is complete, localized increases in vehicle emissions may occur. Based on the expected importing of up to 500 tons of C&D debris over a six (6) day period, which equates to approximately six (6) tandem-axle dump trucks a day, the resulting associated increase in mobile emissions resulting from the Proposed Project are expected to be minimal.

Alternative #2 – No Action Alternative

Under the No Action Alternative, the Proposed Project would not be implemented and the corresponding potential air impacts would not occur.

However, failure to construct a biomass manufacturing facility within Metropolitan Richmond, Virginia could result in an overall negative effect on regional air quality. According to the EPA, the largest methane emissions (i.e., greenhouse gasses – GHG) in the United States are generated by the decomposition of material in landfills. Where the purpose of a biomass manufacturing facility is to reduce the volume of landfill disposal through recycling, the No Action Alternative would promote the continued disposal of methane producing, biomass materials in landfills.

Another benefit to the production of biomass, relative to air quality, occurs by mixing recycled biomass material with coal for consumption as a more efficient energy source that emits less GHG. Through implementing the No Action Alternative, businesses within Metropolitan Richmond would not have an immediate source for recycled biomass materials to use as an energy source, resulting in the continued consumption of unmixed coal which, locally, would prompt higher emissions of GHG.

Also, the objectives of the SEP and Recovery Act would not be advanced.

4.1.5 Noise

Alternative #1 – The Proposed Project

As discussed in Section 3.1.5, the implementation of the Proposed Project would initially result in noise associated with construction. According to the Laborers Health and Safety Fund of North America, most pieces of heavy earth moving equipment operate at 90 dB or below. Given that no more than three (3) pieces of heavy equipment are expected to be operating at any time during construction, the cumulative

level of construction site noise onsite should range between 90 dB and 100 dB and rapidly diminish with increasing distance from the limits of disturbance.

Upon completion, the primary noise source would originate from the operation of the wood waste grinder with additional noise contributed by the pieces of heavy equipment to be used in conjunction with facility operation. A sound analysis completed by CBI for post-construction, facility operation is included in Appendix 2. Resource data indicate that the nearest potential sensitive noise receptor, as defined in Section 3.1.5, is the residential area located approximately 650 feet north of the proposed facility.

Although the mitigation of noise is not anticipated to be a requirement of implementing the Proposed Project, the wood waste grinder, and most facility operations would be housed within the warehouse structure onsite to dampen any noise effects. Furthermore, the facility would only operate from 6:30 am to 3:00 pm Monday through Saturday.

Alternative #2 – No Action Alternative

Under the No Action Alternative, the Proposed Project would not be implemented and no corresponding potential noise impacts would occur. Also, the objectives of the SEP and Recovery Act would not be advanced.

4.2 Cultural Resources

4.2.1 Visual Resources

Alternative #1 – The Proposed Action

Visual impacts are determined by analyzing the existing quality of a view, the sensitivity of a view (as related to important historic and/or cultural sites), and the relationship of the mass and scale of the proposed facility to the existing visual environment. As related to the Proposed Project, visual impacts can be characterized as follows:

No visual Impact – occurs when the proposed alterations would not be visible;

Minor visual impact – occurs when the proposed alterations would be visible but would not interfere with views and would not change the character of the existing views;

Moderate visual impact – occurs when the proposed alterations would be visible and would interfere with existing views but would not change the character of the existing views;

Major visual impact – occurs when the proposed alterations would be visible as a contrasting or dominant element that interferes with views and substantially changes the character of the existing views;

Positive visual impact – occurs when the proposed alterations would improve a view or visual appearance of an area

Site research, and a review of the project by DHR, indicates that no visually sensitive cultural resource areas are located within the vicinity of the Proposed Project. Building design is additionally synchronous with the surrounding structures within Broad Rock Industrial Park, and the proposed plan would include extensive landscaping, including the creation of green space in the bioretention area. Therefore, based on

current property usage, implementation of the Proposed Project would present an overall positive visual impact to the surrounding area.
The mitigation of visual resources in conjunction with project implementing would not be necessary.

Alternative #2 – No Action Alternative

Under the No Action Alternative, the proposed facility would not be constructed and the visual character of the site and surrounding area would remain in its current state. Also, the objectives of the SEP and Recovery Act would not be advanced.

4.2.2 Archeological and Historic Resources

Alternative #1 – The Proposed Project

Based on site research, as confirmed by a project review completed by DHR, no archeological or historic resources are located onsite or within the immediate vicinity of the Proposed Project; therefore, no adverse effect would be anticipated in the implementation of the Proposed Project.

No mitigation of archeological or historic resources would be necessary in conjunction with implementing the Proposed Project.

Alternative #2 – No Action Alternative

Based on the absence of archeological and historic resources within the immediate vicinity of the project site, the No Action Alternative does not have an effect that differs from that of the Proposed Project. However, the objectives of the SEP and Recovery Act would not be advanced.

4.3 Socioeconomic Resources

4.3.1 Land Use

Alternative #1 – The Proposed Project

Implementing the Proposed Project would not introduce a use of the subject property that deviates from its current zoning classification.

Alternative #2 – No Action Alternative

The No Action Alternative would not have an effect that differs from that of the Proposed Project. However, the objectives of the SEP and Recovery Act would not be advanced.

4.3.2 Planning Policies and Controls

Alternative #1 - The Proposed Project

Implementing the Proposed Project would not result in property development that is contrary to the planning policies and controls detailed by the most recent City of Richmond Master Plan.

Alternative #2 – No Action Alternative

The No Action Alternative would not have an effect that differs from that of the Proposed Project. However, the objectives of the SEP and Recovery Act would not be advanced.

4.3.3 Demographics and Environmental Justice

Alternative #1 - The Proposed Project

Although the Broad Rock Planning District is predominantly populated by African Americans with household incomes and property values below the corresponding City of Richmond averages, the site of the Proposed Project is isolated from residential properties and/or areas of proposed residential development. Furthermore, the site is currently zoned/used for light industrial purposes, which is consistent with the Proposed Project. Therefore implementation of the Proposed Project would not result in disproportionately high and adverse effects on human health or human environment of minority and/or low income populations.

Alternative #2 – No Action Alternative

Based on the current zoning and use of the subject property, the No Action Alternative would not have an effect that differs from the results of implementing the Proposed Project. However, the objectives of the SEP and Recovery Act would not be advanced.

4.4 Infrastructure

4.4.1 Roadways and Traffic

Alternative #1 – The Proposed Project

Minimal roadway and traffic impacts are expected to occur during facility construction since Formex Street and Formex Road are not throughways. Additionally, Formex Road is a cul-de-sac.

The expectation of approximately 500 tons of debris being imported into the facility weekly would result in approximately six (6) tandem axle dump trucks visiting the facility daily. The volume of truck traffic on Hopkins Road and Belt Boulevard may therefore slightly increase once the facility becomes operational; however, based on the location of Old Dominion Freight Line (Trucking) east adjacent to the subject property, any increases in traffic volume are anticipated to have a minimal overall effect.

Implementation of the proposed project, including the upgrading and/or extension of the utility service connections, may temporarily disrupt traffic patterns, but only to the adjoining properties, since Formex Road is a cul-de-sac.

Alternative #2 – No Action Alternative

Under the No Action Alternative, the current roadway and traffic conditions in the vicinity of the proposed facility would remain unchanged. However, the objectives of the SEP and Recovery Act would not be advanced.

4.4.2 Potable Water

Alternative #1 – The Proposed Project

In conjunction with facility design, a water supply flow test was completed using the fire hydrants located on the perimeter of the site. The results indicated adequate pressure and supply for the facility with no detriment to the surrounding service connections. Therefore, reconfiguring the potable water service connection as a result of implementing the Proposed Project would not impose an adverse environmental effect on the surrounding environment nor require mitigation procedures.

Alternative #2 – No Action Alternative

The No Action Alternative would not have an effect that differs from that of the Proposed Project. However, the objectives of the SEP and Recovery Act would not be advanced.

4.4.3 Stormwater Management

Alternative #1 - The Proposed Project

Under the Proposed Project, soil disturbance would occur across the site during construction that would potentially create short-term erosion and sedimentation impacts to the peripheral, municipal stormwater management system and the associated surface waters receiving surface and stormwater drainage.

As a result of facility construction, the subject property would be graded to direct surface runoff, under saturated conditions, to drop inlets that empty to subgrade piping, which gravity drains to a bioretention filter. Accordingly, the bioretention filter would reduce the discharge velocity into the receiving stream.

The onsite bioretention facility was designed in accordance with the Virginia Stormwater Management Program whereby the filter is sized using methods prescribed by the Virginia Stormwater Management Handbook. Preconstruction and postconstruction pollutant loads were calculated based on impervious cover and the filter was sized to reduce post construction loads to acceptable levels. Accordingly, the elevation of the overflow structure is one (1) foot above the elevation of the bioretention bed.

In accordance with the Virginia Erosion and Sediment Control Handbook, preconstruction and postconstrcution runoff calculations were completed for the onsite stream channel from the proposed facility up gradient. Flow calculations considered runoff potential from the two (2) year peak storm discharge relative to the percentages of the drainage area covered by grass, asphalt, roofs, concrete and gravel. Implementing the Proposed Project would introduce approximately 1.8 additional acres of impervious area to the subject property that would gravity drain to the stormwater management system, with eventual discharge into Broad Rock Creek. The results indicated that postconstruction stream flow is below permissible velocities for erosion and that the two (2) year storm event would not overtop the stream bank.

Potential negative impacts to stormwater management resulting from construction would be addressed through the application of the Virginia Erosion and Sediment Control Handbook (1992) minimum standards, including the implementation of a site specific E&S Plan and SWPPP.

Following construction, stormwater drainage from the impervious areas and a large percentage of the pervious areas would be directed into a bioretention filter before being discharged to an unnamed tributary of Broad Rock Creek. At the discharge point from the bioretention filter, class A-1 rip rap outlet protection would be installed to minimize the erosion and sedimentation potential.

Alternative #2 – No Action Alternative

Under the No Action Alternative, the majority of the site would remain ungraded, unpaved and pervious thus minimizing the volume of runoff into the eastern adjacent unnamed tributary of Broad Rock Creek. However, the objectives of the SEP and Recovery Act would not be advanced.

4.4.4 Sanitary Sewer

Alternative #1 – The Proposed Project

Construction of the proposed facility would increase flow to the sanitary sewer as a result of an increased number of restrooms, runoff from the washdown area, and discharge from the wet dust suppression system. The dimensions of the sanitary sewer system were reviewed by a mechanical/electrical/plumbing (MEP) engineer relative to the expected discharge by the facility and determined to be adequate for the design with no risk of over-taxing the sanitary sewer system.

The reconfiguration of the sanitary sewer service connection to the proposed facility would not impose an adverse environmental effect on the surrounding environment nor require environmental mitigation procedures.

Alternative #2 – No Action Alternative

The No Action Alternative would not have an effect that differs from that of the Proposed Project. However, the objectives of the SEP and Recovery Act would not be advanced.

4.4.5 Energy System

Alternative #1 – The Proposed Project

Based on a preliminary electrical load analysis completed by an electrical engineer and as recommended by Dominion Virginia Power, the electric service for the Proposed Project would be upgraded from two (2) phase to three (3) phase. The reconfiguration of the electrical service connection would not adversely affect the surrounding environment or electric service to the office park based on the local service main being three (3) phase. However, as a result, the two (2) phase, pad-mounted transformer currently located on the subject property would be replaced with a three (3) phase pad-mounted transformer.

The pad-mounted transformer installed in conjunction with upgrading the electrical service should be confirmed to not contain Polychlorinated Biphenyls.

Alternative #2 – No Action Alternative

Under the No Action Alternative, the electric service to the site would remain in its current configuration. However, the objectives of the SEP and Recovery Act would not be advanced.

4.4.6 Solid Waste

Alternative #1 – The Proposed Project

During implementation of the Proposed Project, the generation of solid waste, as construction debris, could present potential negative environmental effects as a result of exposure to precipitation events and the subsequent generation of impacted stormwater runoff.

Once operational, the facility would have minimal potential to impact the surrounding environment based on: 1) the management of imported solid waste debris within a warehouse structure; 2) the containment of unacceptable materials; and 3) the rapid processing of recyclable materials.

During facility construction, solid waste debris would be segregated and appropriately staged, pending removal from the site for disposal, with appropriate measures implemented, as necessary, to prevent exposure to precipitation events and/or the generation of runoff.

Following construction, facility operations would not require solid waste mitigation procedures as all imported solid waste material would be processed within a contained environment.

Alternative #2 – No Action Alternative

Under the No Action Alternative, the site of the Proposed Project would remain unchanged. However, the objectives of the SEP and Recovery Act would not be advanced.

4.4.7 Hazardous Materials

Alternative #1 – The Proposed Project

The implementation of the Proposed Project is expected to involve the limited use of hazardous materials onsite during facility construction including lubricants, paints, and cleaners. Accordingly, the construction site would be required to accommodate the temporary storage of hazardous material(s), in accordance with USEPA regulations.

Once active, the facility would likely utilize hazardous materials, such as lubricants and cleaners, in association with regular operation and maintenance of the onsite equipment.

The storage of all hazardous materials during construction and/or subsequent facility operation must be compliant with applicable local state and/or federal regulations. Furthermore, the accumulation, handling, containment, transport, treatment and/or disposal of hazardous wastes (if any) generated during construction and/or subsequent facility operation should be: 1) segregated to reduce hazardous waste volumes to be managed; 2) contained by a licensed HAZMAT contractor and/or trained personnel in a manner that is consistent with applicable regulations; 3) transported by a licensed HAZMAT contractor in a manner that is consistent with applicable DOT regulations; and 4) disposed of at an appropriate facility in accordance with applicable regulations.

Alternative #2 – No Action Alternative

Under the No Action Alternative, onsite activity would continue in its current state which includes a limited potential for interaction with hazardous materials and/or waste. However, the objectives of the SEP and Recovery Act would not be advanced.

5.0 CUMMULATIVE IMPACTS

Per CEQ Regulations (40 CFR 1508.7):

> *"Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.*

Implementing the proposed project would offer beneficial impacts to the subject property and the immediate area within the vicinity of Broad Rock Industrial Park through better stormwater management, which would ultimately benefit Broad Rock Creek, and creating green space through the construction of a stormwater bioretention filter.

Regionally, implementing the proposed Project would incrementally and cumulatively result in a positive environmental impact to the Metropolitan Richmond area primarily by providing an alternative energy source that would produce less GHG emissions, and providing a means for reducing the volume solid waste disposal in local landfills – which would additionally serve to reduce GHG emissions.

Furthermore, the construction of a biomass manufacturing facility would benefit the Richmond economy by creating green jobs, and offering a means of reducing construction project expenses by reducing disposal construction for C&D debris.

6.0 PUBLIC COMMENT

Following completion of the Draft EA, a fifteen (15) day public comment period was implemented with the publication of a legal notice in the *Richmond Times Dispatch* on July 20, 23 and 26 and the *Chestefield Observer* on July 28, 2010 (Appendix 10). The advertisement invited the public to review the document at two (2) local libraries and direct comments to DOE NETL. As a result, one (1) response was received from Mr. Michael R. Barr, of S.B. Cox, Inc. Demolition Contractors, who drew attention to the presence of three C&D waste recycling facilities in the Richmond Metropolitan area as a matter of offering clarification to Section 1.2 of this EA (Appendix 10). While Mr. Barr's statement is true, the stated use of the Cephas facility is not formally a C&D waste recycling facility; rather, the CEPHAS facility will support the C&D industry by converting woody debris to biomass, which will be unique to the Richmond area.

In conjunction with the public comment period, copies of the Draft EA were forwarded to the VDEQ – Office of Environmental Impact Review (OEIR) on July 21, 2010 for a federal consistency determination. As a matter of protocol, VDEQ-OEIR requested a fifteen (15) day extension of the review deadline from August 3, 2010 to August 18, 2010, but completed the review and forwarded a response on August 10, 2010. The VDEQ response indicates the Commonwealth has no objection to the proposed action provided that all applicable state and federal law and regulations are followed. The VDEQ response does highlight comments from DCR and the City of Richmond concerning the potential presence of a resource protection area (RPA) around the stream that transects the eastern area of the site. Accordingly, a perennial stream assessment (PSA) was completed for the site and submitted to DCR on August 20, 2010 (Appendix 11). The PSA is currently being jointly reviewed by DCR and the City of Richmond and a response is forthcoming. Proponents of the project must comply with all applicable local, state, and/or federal regulations prior to project implementation.

7.0 LIST OF PREPARERS

Timmons Group – Environmental Services

- ***John T. Russell, P.G., Project Manager***
  M.S. Geology, 1994, Old Dominion University
  B.S. Geology, 1988, Virginia Polytechnic Institute and State University
  Years of Professional Experience: 19

- ***Ben Virts, PWS, Principle Reviewer***
  B.S. Environmental Science, 1997, Virginia Polytechnic Institute and State University
  Years of Professional Experience: 13

- ***Brian Breissinger, Environmental Technician/Graphics***
  B.S. Biochemistry, 2004, Virginia Polytechnic Institute and State University
  Years of Professional Experience: 3

- ***David Schul, Environmental Technician***
  B.S. Geology, 2008, James Madison University
  Years of Professional Experience: 1

8.0 REFERENCES

City of Richmond, Virginia, 2008. Broad Rock Neighborhood, detailed profile http://www.city-data.com/neighborhood/Broad-Rock-Richmond-VA.html

Commonwealth of Virginia, Department of Conservation and Recreation, 2010. Division of Natural Heritage.

Commonwealth of Virginia, Department of Conservation and Recreation, Conservation Lands http://www.dcr.virginia.gov

Commonwealth of Virginia, Department of Conservation and Recreation, Division of Soil and Water Conservation, 1992. Virginia Erosion and Sediment Control Handbook, Third Edition.

Commonwealth of Virginia, Department of Environmental Quality, Air Pollution Control Board, 2009. 8-Hour Ozone Planning Areas in the Commonwealth of Virginia, http://www.deq.state.va.us/air/status.html.

Commonwealth of Virginia, Department of Game and Inland Fisheries, 2009. Fish and Wildlife Information Service, http://vafwis.org/fwis.

Commonwealth of Virginia, Department of Historic Resources, 2009. Online Archives Search, http://www.dhr.virginia.gov/archives/data_sharing_sys.htm.

Environmental Data Resources, 2010. NEPACheck® Report, Broad Rock Industrial Park, Richmond, Virginia.

Federal Emergency Management Agency, 2009. Online Flood Insurance Rate Map 5101290077D, Panel 77 of 83, http://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView.

Laborers Health and Safety Fund of North America, 2010. Controlling Noise on Construction Sites http://www.lhsfna.org/files/bpguide.pdf

Legrand, H.E., 1988. Region 21, Piedmont and Blue Ridge, *in* Back, W., Rosenshein, J.S., and Seaber, P.R., eds., Hydrogeology: Boulder, Colorado, Geological Society of America, The Geology of North America, v. O-2.

Meisler, H., Miller, J.A., Knobel, L.L., and Waite, R.L., 1988. Region 22, Atlantic and Eastern Gulf Coastal Plain, *in* Back, W., Rosenshein, J.S., and Seaber, P.R., eds., Hydrogeology: Boulder, Colorado, Geological Society of America, The Geology of North America, v. O-2.

The Wilderness Information Network: National Wilderness Preservation System, 2009. http://www.wilderness.net.orintNWPSsearch.cfm.

United States Department of Agriculture, 2010. Natural Resources Conservation Service, Web Soil Survey 2.2, National Cooperative Soil Survey, Richmond Virginia http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

United States Environmental Protection Agency, 2009. Mid-Atlantic 8-Hour Ozone Maintenance Areas, http://epa.gov/reg3artd/airquality/ozone8hrmaintareas_2.htm.

United States Fish and Wildlife Service, 2009. Online species search, http://www.fws.gov.

United States Geological Survey, 1969. Drewrys Bluff 7.5 minute topographic quadrangle map, 1:24000 scale (photo revised 1994).

Virginia Division of Mineral Resources, Department of Mines, Minerals and Energy, 1993. Geologic Map of Virginia.

9.0 APPENDICES

Appendix 1: Site Maps
Appendix 2: Site Plan Details
Appendix 3: Site Photographs
Appendix 4: EDR NEPACheck® Report
Appendix 5: Agency Project Review Letters
Appendix 6: Agency Project Review Response Letters
Appendix 7: Timmons Group Wetland Delineation Data
Appendix 8: DHR DSS Search Results
Appendix 9: City of Richmond 2000-2010 Master Plan - Broad Rock Planning District
Appendix 10: Statements of Public Notification and Associated Responses
Appendix 11: Perennial Flow Determination
Appendix 12: Distribution List

9.0 APPENDICES

Appendix 1: Site Maps
Appendix 2: Site Plan Details
Appendix 3: Site Photographs
Appendix 4: EDR NEPACheck® Report
Appendix 5: Agency Project Review Letters
Appendix 6: Agency Project Review Response Letters
Appendix 7: Timmons Group Wetland Delineation Data
Appendix 8: DHR DSS Search Results
Appendix 9: City of Richmond 2000-2010 Master Plan - Broad Rock Planning District
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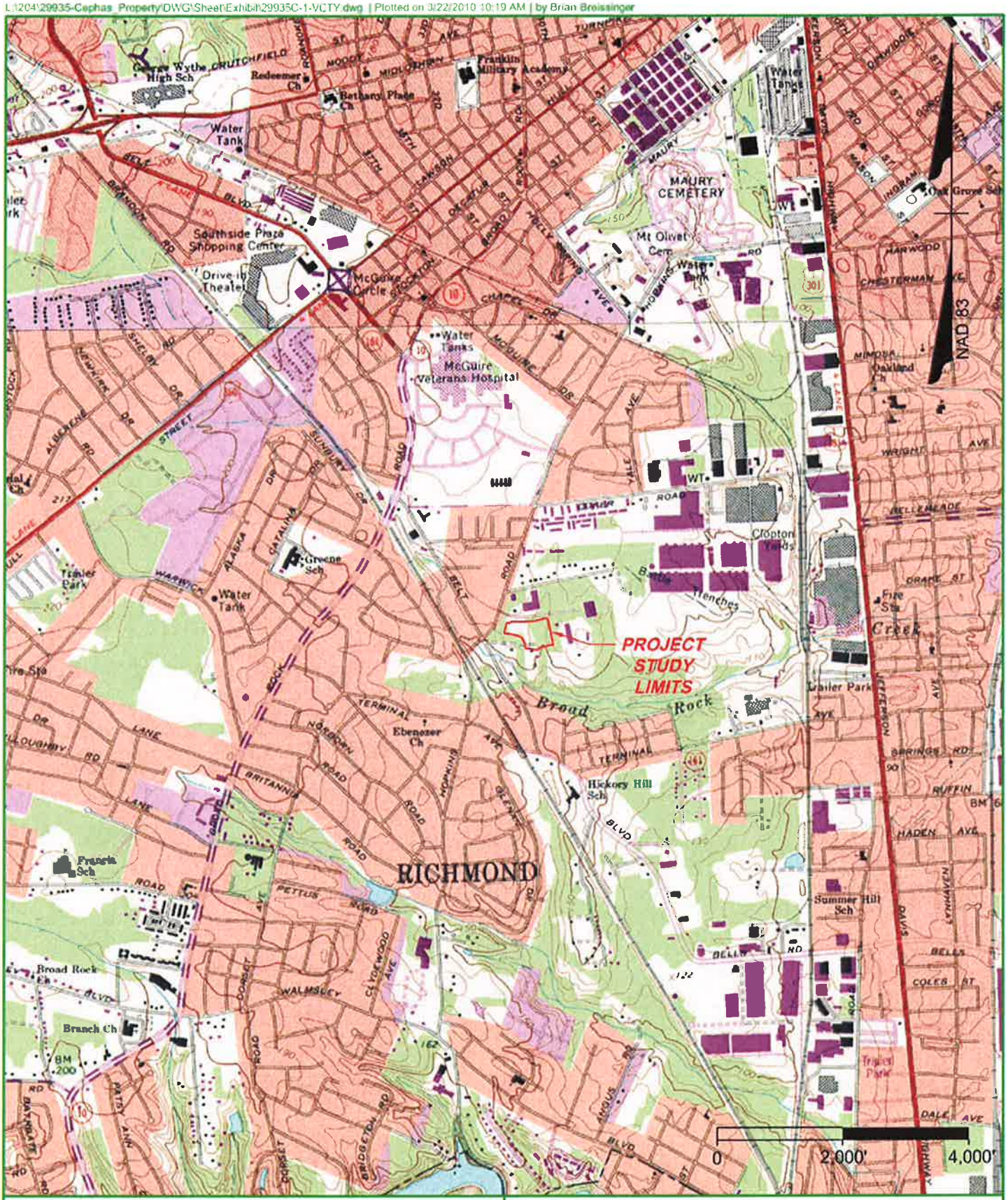
Appendix 11: Perennial Flow Determination
Appendix 12: Distribution List

APPENDIX 1

Site Maps

L:\204\29935-Cephas Property\DWG\Sheet\Exhibit\29935C-1-VCTY.dwg | Plotted on 3/22/2010 10:19 AM | by Brian Breissinger



CEPHAS PROPERTY

CITY OF RICHMOND, VIRGINIA

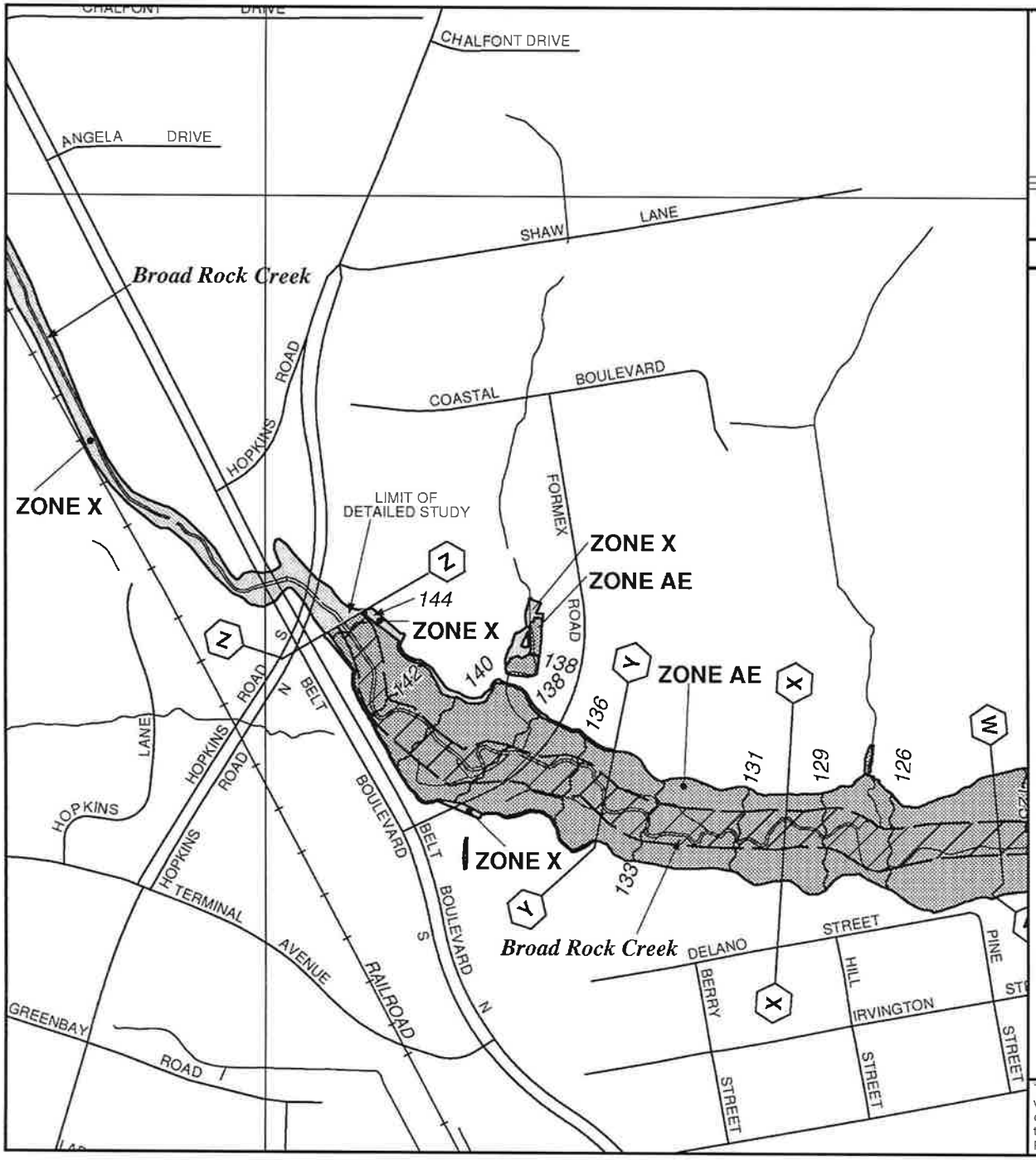
VICINITY MAP

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: *29935*
PROJECT STUDY LIMITS: *5.5 ACRES*
LATITUDE: *37°29'12"*
LONGITUDE: *77°27'48"*

U.S.G.S. QUADRANGLE(S): *DREWRYS BLUFF*
DATE: *1994*
WATERSHED: *JAMES RIVER, LOWER (TIDAL)*
HUC IDENTIFICATION: *NVBD JL01*



MAP SCALE 1" = 500'

250 0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0077D

FIRM

FLOOD INSURANCE RATE MAP

CITY OF

RICHMOND, VIRGINIA

INDEPENDENT CITY

PANEL 77 OF 83

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
RICHMOND, CITY OF	510129	0077	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
5101290077D

MAP REVISED
APRIL 2, 2009

Federal Emergency Management Agency


77° 27' 55"
77° 27' 42"
37° 29' 15"
37° 29' 8"
37° 29' 9"
282060
282090
282120
282150
282180
282210
282240
282270
282300
282330
4151820
4151790
4151760
4151730
4151700
4151670
4151640
Hopkins Rd
Hopkins Rd
Formex Rd
34B
43D
34B
49
Map Scale: 1:1,500 if printed on A size (8.5" x 11") sheet.
N
Meters
0 20 40 80 120
Feet
0 50 100 200 300

MAP LEGEND

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

Soils
- Soil Map Units

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

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Oceans
- Streams and Canals

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

MAP INFORMATION

Map Scale: 1:1,500 if printed on A size (8.5" × 11") sheet.

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

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

Soil Survey Area: City of Richmond, Virginia
Survey Area Data: Version 11, Feb 17, 2010

Date(s) aerial images were photographed: 6/24/2003

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

Map Unit Legend

City of Richmond, Virginia (VA760)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
34B	Tetotum-Urban land complex, clayey substratum, 2 to 6 percent slopes	2.4	45.4%
40	Udorthents-Dumps complex, pits	0.1	2.8%
43D	Wateree sandy loam, 12 to 20 percent slopes	2.7	51.8%
Totals for Area of Interest		**5.3**	**100.0%**

APPENDIX 2

Site Plan Details

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

Site Development | Residential | Infrastructure | Technology

CEPHAS INDUSTRIES MRF

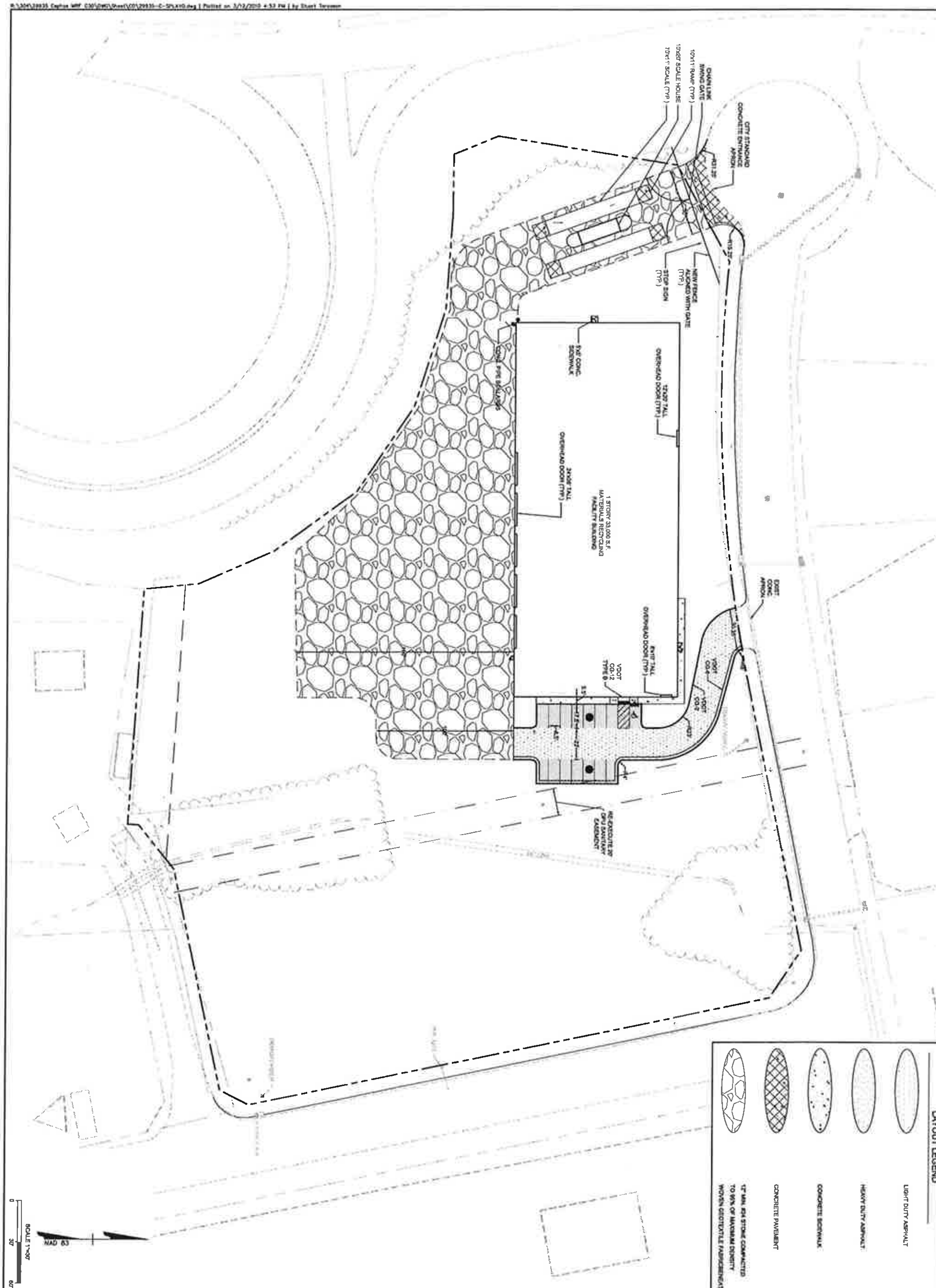
RICHMOND, VA

EXISTING CONDITIONS PLAN

JOB NO.	SHEET NO.	SCALE	CHECKED BY	DESIGNED BY	DRAWN BY	DATE
29935	C1.0	1"=30'	A. GOULD	S. TORAASON	S. TORAASON	03.19.10

DATE	REVISION DESCRIPTION

COMMONWEALTH OF VIRGINIA



TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

Site Development | Residential | Infrastructure | Technology

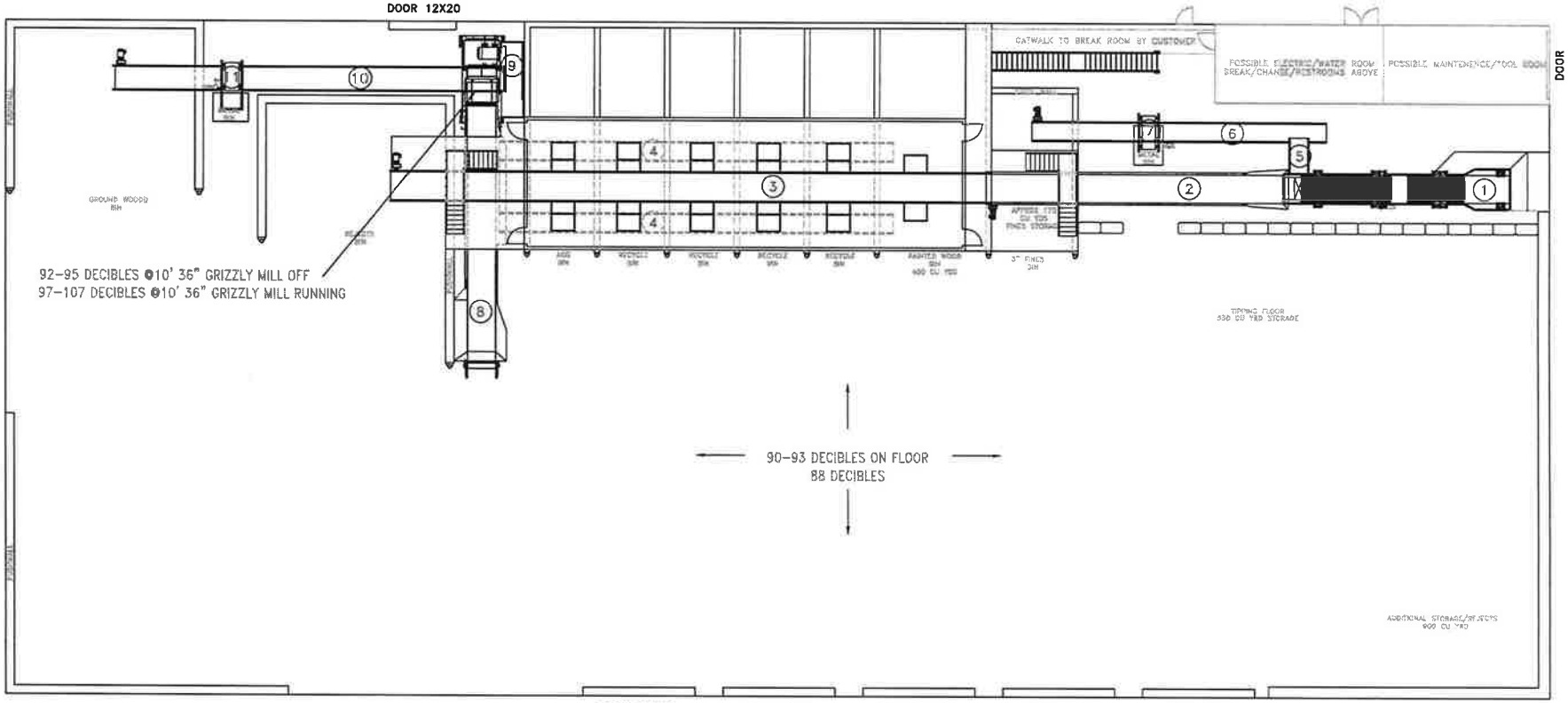
JOB NO	SHEET NO		SCALE	CHECKED BY	DESIGNED BY	DRAWN BY	DATE
29935	C3.0	CEPHAS INDUSTRIES MRF RICHMOND, VA LAYOUT PLAN	1"=30'	A. GOULD	S. TORAASON	S. TORAASON	03.15.10

DATE	REVISION DESCRIPTION

COMMONWEALTH OF VIRGINIA

DWG NO 00110971 SH 1

REVISION		
REV	DESCRIPTION	DATE/APVD
–	INITIAL RELEASE	XXXXX



1. TAPER SLOT SCREENER
2. OVERS INCLINE CONVEYOR
3. OVERS PICKING CONVEYOR
4. WOOD CONVEYORS (2)
5. FINES TRANSFER CONVEYOR
6. FINES INCLINE CONVEYOR
7. FINES OVERBAND MAGNET
8. 3660 FEED CONVEYOR
9. 3660 GRIZZLY MILL (400 HP)
10. 3660 DISCHARGE CONVEYOR
11. WOOD OVERBAND MAGNET

MISCELANEOUS DECIBLES
CAT 966 LOADER 95–100 DECIBLES
WITH EXCEVATOR MOVING 97 DECIBLES @10'
LOADING OUTBOUND METAL 102 DECIBLES @50'
START UP ALARM 97 DECIBLES @25'

DRAWN BY MJS 17MAR09 DATE
CHECKED BY
APVD
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES :
FRACTIONS ±1/16
.XX DECIMAL ±.03
.XXX DECIMAL ±.005
ANGLES ±.5°
REMOVE BURRS & SHARP EDGES
MACHINED SURFACE FINISH TO BE 125 RMS
OTHER SURFACE FINISHES TO BE 250 RMS

CONTINENTAL BIOMASS INDUSTRIES
22 WHITTIER ST. NEWTON NH 03858

TITLE
CEPHAS INDUSTRIES
PHASE 1 SYSTEM
DECIBLE READINGS

SIZE D | DWG NO 00110971 | REV B
SCALE 1/1 | WEIGHT: X lbs | SHEET 1 OF 1

APPENDIX 3

Site Photographs

Cephas Industries Open-Loop Biomass Manufacturing Facility
Environmental Assessment

Western view from Formex Road across the Cephas Industries property

Western view on Formex Street along the northern boundary of the Cephas Industries property from the intersection of Formex Street and Formex Road

Southern view down Formex Road and the Cephas Industries eastern boundary from intersection of Formex Road and Formex Street

Southern view across the northern area of the subject property from Formex Street

View of the northern adjacent property, Commodity Foil and Paper, from Formex Street

View of the eastern adjacent property, Old Dominion Freight Line, from Formex Road

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Cephas Industries Open-Loop Biomass Manufacturing Facility
Environmental Assessment

View of construction entrance (southeast) from Formex Rd facing west.

View from Coastal Blvd of eastern adjacent property, Bradco Supply Corporation.

Southern view across the intersection of Formex Road and East Belt Boulevard, south of the subject property

View of the subject property from the Belt Boulevard/ Hopkins Road connector

View from Hopkins Road facing east with the subject property in the distance.

View from Hopkins Road facing east with the subject property in the distance

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

Cephas Industries Open-Loop Biomass Manufacturing Facility
Environmental Assessment

View from subject property facing north, Commodity Foil and Paper visible in distance. Administrative construction building for Cephas Industries at right

View from subject property facing east. Old Dominion Freight Line visible in distance

View from subject property facing south

View from subject property facing west

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

APPENDIX 4

EDR NEPACheck® Report

Cephas Biomass Facility
3413 Formex Road
Richmond, VA 23224

Inquiry Number: 2752659.1s
April 22, 2010

EDR NEPACheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EDR NEPACheck® DESCRIPTION

The National Environmental Policy Act of 1969 (NEPA) requires that Federal agencies include in their decision-making processes appropriate and careful consideration of all environmental effects and actions, analyze potential environmental effects of proposed actions and their alternatives for public understanding and scrutiny, avoid or minimize adverse effects of proposed actions, and restore and enhance environmental quality as much as possible.

The EDR NEPACheck provides information which may be used, in conjunction with additional research, to determine whether a proposed site or action will have significant environmental effect.

The report provides maps and data for the following items (where available). Search results are provided in the Map Findings Summary on page 2 of this report.

Section	Regulation
Natural Areas Map	
• Federal Lands Data:	
- Officially designated wilderness areas	47 CFR 1.1307(1)
- Officially designated wildlife preserves, sanctuaries and refuges	47 CFR 1.1307(2)
- Wild and scenic rivers	40 CFR 6.302(e)
- Fish and Wildlife	40 CFR 6.302
• Threatened or Endangered Species, Fish and Wildlife, Critical Habitat Data (where available)	47 CFR 1.1307(3); 40 CFR 6.302
Historic Sites Map	
• National Register of Historic Places • State Historic Places (where available) • Indian Reservations	47 CFR 1.1307(4); 40 CFR 6.302
Flood Plain Map	
• National Flood Plain Data (where available)	47 CFR 1.1307(6); 40 CFR 6.302
Wetlands Map	
• National Wetlands Inventory Data (where available)	47 CFR 1.1307(7); 40 CFR 6.302
FCC & FAA Map	
• FCC antenna/tower sites, AM Radio Towers, FAA Markings and Obstructions, AM Radio Interference Zones, Airports, Topographic gradient	47 CFR 1.1307(8)
Key Contacts and Government Records Searched	

MAP FINDINGS SUMMARY

The databases searched in this report are listed below. Database descriptions and other agency contact information is contained in the Key Contacts and Government Records Searched section on page 28 of this report.

TARGET PROPERTY ADDRESS

CEPHAS BIOMASS FACILITY
3413 FORMEX ROAD
RICHMOND, VA 23224

Inquiry #: 2752659.1s
Date: 4/22/10

TARGET PROPERTY COORDINATES

Latitude (North):	37.486900 - 37° 29' 12.8"
Longitude (West):	77.463501 - 77° 27' 48.6"
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	282190.1
UTM Y (Meters):	4151534.2

Applicable Regulation from 47 CFR/FCC Checklist	Database	Search Distance (Miles)	Within Search	Within 1/8 Mile
NATURAL AREAS MAP				
1.1307a (1) Officially Designated Wilderness Area	US Federal Lands	1.00	NO	NO
1.1307a (2) Officially Designated Wildlife Preserve	US Federal Lands	1.00	NO	NO
1.1307a (3) Threatened or Endangered Species or Critical Habitat	VA Endangered Species	1.00	NO	NO
HISTORIC SITES MAP				
1.1307a (4) Listed or eligible for National Register	National Register of Hist. Pla	1.00	NO	NO
1.1307a (4) Listed or eligible for National Register	VA Historic Sites	1.00	NO	NO
	Indian Reservation	1.00	NO	NO
	APPAL_TRAIL	1.00	NO	NO
FLOODPLAIN MAP				
1.1307 (6) Located in a Flood Plain	FLOODPLAIN	1.00	YES	YES
WETLANDS MAP				
1.1307 (7) Change in surface features (wetland fill)	NWI	1.00	YES	NO
FCC & FAA SITES MAP				
	FCC Cellular	1.00	YES	YES
	FCC Antenna	1.00	YES	YES
	FCC Tower	1.00	YES	YES
	FCC AM Tower	1.00	NO	NO
	FAA DOF	1.00	YES	YES
	Airports	1.00	YES	---
	Power Lines	1.00	YES	---

Natural Areas Map

- Target Property
- Roads
- County Boundary
- Waterways
- Water
- Airports
- Locations
- Federal Areas
- Federal Linear Features
- State Areas
- State Linear Features

SITE NAME: Cephas Biomass Facility	CLIENT: Timmons Group
ADDRESS: 3413 Formex Road	CONTACT: David Schul
Richmond VA 23224	INQUIRY #: 2752659.1s
LAT/LONG: 37.4869 / 77.4635	DATE: April 22, 2010

NATURAL AREAS MAP FINDINGS

Map ID Direction Distance Distance (ft.)	EDR ID Database

No mapped sites were found in EDR's search of available government records within the search radius around the target property.

Historic Sites Map

- Target Property
- Streets
- County Boundary
- Waterways
- Water
- Airports
- Historic Sites
- Federal Historic Areas
- State Historic Areas
- US Indian Reservations
- Scenic Trail

SITE NAME:	Cephas Biomass Facility	CLIENT:	Timmons Group
ADDRESS:	3413 Formex Road	CONTACT:	David Schul
	Richmond VA 23224	INQUIRY #:	2752659.1s
LAT/LONG:	37.4869 / 77.4635	DATE:	April 22, 2010

HISTORIC SITES MAP FINDINGS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

No mapped sites were found in EDR's search of available government records within the search radius around the target property.

UNMAPPABLE HISTORIC SITES

Due to poor or inadequate address information, the following sites were not mapped:

Status
EDR ID
Database

Unmappable
78003013
National Register of Hist. Places

Refnum:	78003013
Resname:	Bellwood
Address:	Address Restricted
Resource Type:	Building
Number buildings:	000001
Number sites:	000000
Number structs:	000000
Number objects:	000000
Non-contrib bldg:	000000
Non-contrib sites:	000000
Non-contrib structs:	000000
Non-contrib objects:	000000
Primary Certification:	Listed in the national register
Certification date:	19781212
Acreage:	210
Alternate name:	Not Reported
County:	Chesterfield
City:	Richmond
Applicable Criteria:	Event
Applicable Criteria:	Architecture/Engineering
Areas of significance:	Military
Areas of significance:	Architecture
Areas of significance:	Agriculture
Current Function:	Defense
Current Function:	Social
Building Material:	Brick
Building Material:	None listed
Building Material:	None listed
Building Material:	Brick
Alternate name:	Auburn Chase;Sheffields

Unmappable
03000446
National Register of Hist. Places

Refnum:	03000446
Resname:	Beth Elon
Address:	4600 Nine Mile Rd.
Resource Type:	Building
Number buildings:	000002
Number sites:	000001
Number structs:	Not Reported
Number objects:	Not Reported
Non-contrib bldg:	000003
Non-contrib sites:	Not Reported
Non-contrib structs:	Not Reported
Non-contrib objects:	Not Reported
Primary Certification:	Listed in the national register
Certification date:	20030522

UNMAPPABLE HISTORIC SITES

Due to poor or inadequate address information, the following sites were not mapped:

Status
EDR ID
Database

Acreage:	32
Alternate name:	Not Reported
County:	Henrico
City:	Richmond
Applicable Criteria:	Event
Applicable Criteria:	Person
Applicable Criteria:	Architecture/Engineering
Areas of significance:	Performing arts
Areas of significance:	Architecture
Current Function:	Domestic
Current Function:	Work in progress
Building Material:	Brick
Building Material:	Concrete
Building Material:	Weatherboard
Building Material:	Tin
Alternate name:	043-5117

Unmappable
04000576
National Register of Hist. Places

Refnum:	04000576
Resname:	Clarke--Palmore House
Address:	904 McCoul St.
Resource Type:	Building
Number buildings:	000003
Number sites:	Not Reported
Number structs:	Not Reported
Number objects:	Not Reported
Non-contrib bldg:	000001
Non-contrib sites:	Not Reported
Non-contrib structs:	Not Reported
Non-contrib objects:	Not Reported
Primary Certification:	Listed in the national register
Certification date:	20040602
Acreage:	103
Alternate name:	Not Reported
County:	Henrico
City:	Richmond
Applicable Criteria:	Architecture/Engineering
Areas of significance:	Architecture
Current Function:	Work in progress
Current Function:	Recreation and culture
Building Material:	Brick
Building Material:	Brick
Building Material:	Metal
Alternate name:	Clarke Home
Alternate name:	043-0085

Unmappable
95000242
National Register of Hist. Places

UNMAPPABLE HISTORIC SITES

Due to poor or inadequate address information, the following sites were not mapped:

Status
EDR ID
Database

Refnum:	95000242
Resname:	Falling Creek Ironworks Archeological Site
Address:	Address Restricted
Resource Type:	Site
Number buildings:	000000
Number sites:	000001
Number structs:	000000
Number objects:	000000
Non-contrib bldg:	000000
Non-contrib sites:	000000
Non-contrib structs:	000000
Non-contrib objects:	000000
Primary Certification:	Listed in the national register
Certification date:	19950329
Acreage:	35
Alternate name:	Not Reported
County:	Chesterfield
City:	Richmond
Applicable Criteria:	Information Potential
Areas of significance:	Historic - non-Aboriginal
Areas of significance:	Exploration/settlement
Areas of significance:	Industry
Areas of significance:	Engineering
Current Function:	Vacant/not in use
Building Material:	Inapplicable
Building Material:	Inapplicable
Building Material:	Inapplicable
Building Material:	None listed
Alternate name:	44CF7

Unmappable
05001108
National Register of Hist. Places

Refnum:	05001108
Resname:	Jackson Ward Historic District (Boundary Increase)
Address:	1/2-17 E. Marshall St.; 0-24 W. Marshall St.
Resource Type:	District
Number buildings:	000018
Number sites:	Not Reported
Number structs:	Not Reported
Number objects:	Not Reported
Non-contrib bldg:	000002
Non-contrib sites:	Not Reported
Non-contrib structs:	Not Reported
Non-contrib objects:	Not Reported
Primary Certification:	Listed in the national register
Certification date:	20050926
Acreage:	32
Alternate name:	Not Reported
County:	Richmond
City:	Richmond
Applicable Criteria:	Event

UNMAPPABLE HISTORIC SITES

Due to poor or inadequate address information, the following sites were not mapped:

Status
EDR ID
Database

Applicable Criteria:	Architecture/Engineering
Areas of significance:	Architecture
Areas of significance:	Social history
Current Function:	Commerce/trade
Current Function:	Social
Current Function:	Transportation
Current Function:	Religion
Current Function:	Domestic
Current Function:	Vacant/not in use
Building Material:	Brick
Building Material:	Tin
Building Material:	Brick
Building Material:	Concrete
Building Material:	Slate
Building Material:	Stucco
Building Material:	Rubber
Alternate name:	VDHR File # 127-0237

Unmappable
05000527
National Register of Hist. Places

Refnum:	05000527
Resname:	Main Street Banking Historic District
Address:	E. Main St. between 7th & Governors Sts.
Resource Type:	District
Number buildings:	000015
Number sites:	Not Reported
Number structs:	Not Reported
Number objects:	Not Reported
Non-contrib bldg:	Not Reported
Non-contrib sites:	Not Reported
Non-contrib structs:	Not Reported
Non-contrib objects:	Not Reported
Primary Certification:	Listed in the national register
Certification date:	20050601
Acreage:	105
Alternate name:	Not Reported
County:	Richmond
City:	Richmond
Applicable Criteria:	Event
Applicable Criteria:	Architecture/Engineering
Areas of significance:	Architecture
Areas of significance:	Commerce
Areas of significance:	Economics
Current Function:	Domestic
Current Function:	Commerce/trade
Current Function:	Government
Current Function:	Vacant/not in use
Building Material:	Brick
Building Material:	Brick
Building Material:	Other
Building Material:	Steel

UNMAPPABLE HISTORIC SITES

Due to poor or inadequate address information, the following sites were not mapped:

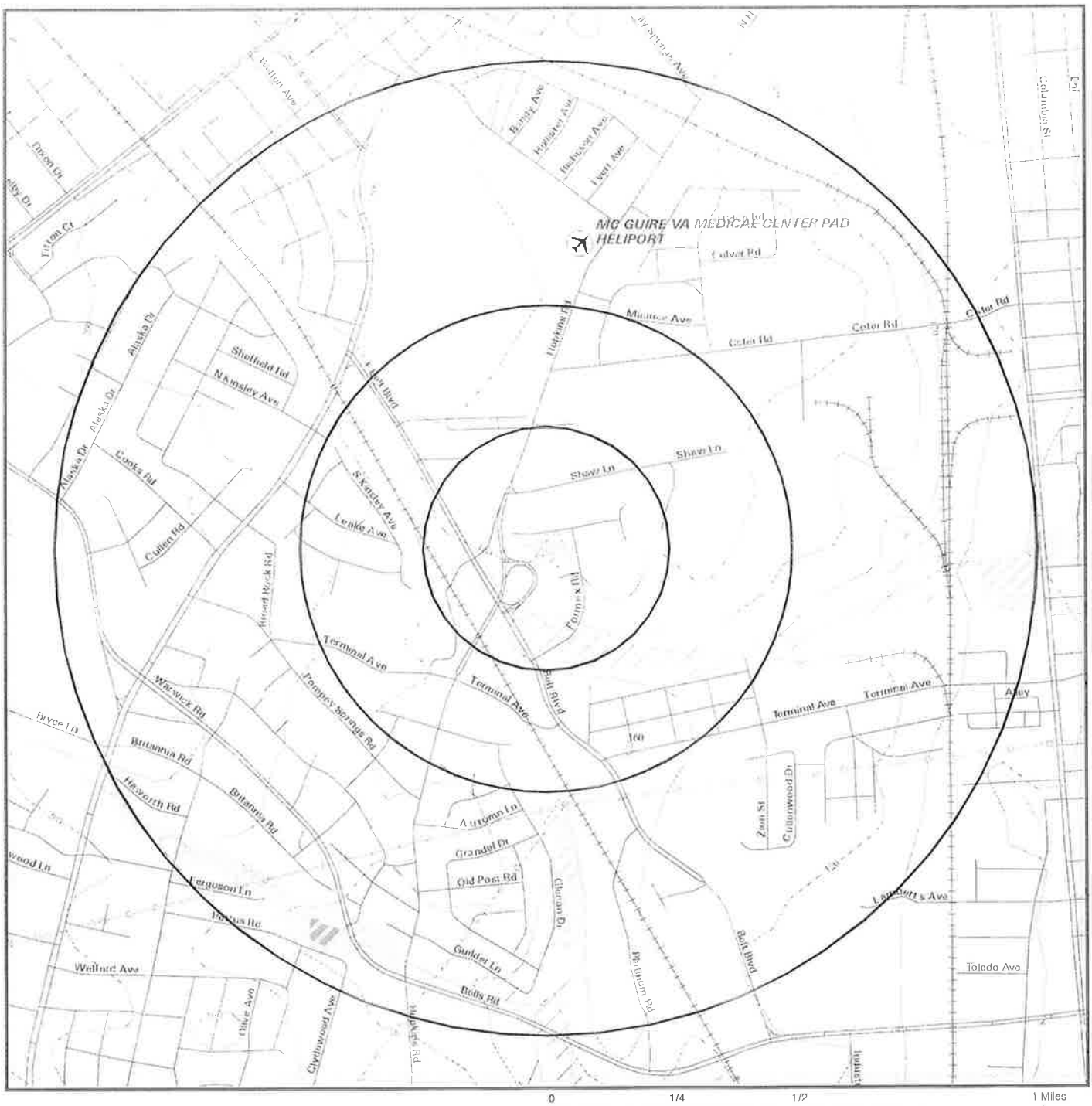
Status
EDR ID
Database

Building Material:	Concrete
Building Material:	Terra cotta
Building Material:	Limestone
Alternate name:	VDHR#127-6031

Unmappable
05000867
National Register of Hist. Places

Refnum:	05000867
Resname:	Virginia State Library
Address:	1111 E. Broad St.
Resource Type:	Building
Number buildings:	000001
Number sites:	Not Reported
Number structs:	Not Reported
Number objects:	Not Reported
Non-contrib bldg:	Not Reported
Non-contrib sites:	Not Reported
Non-contrib structs:	Not Reported
Non-contrib objects:	Not Reported
Primary Certification:	Listed in the national register
Certification date:	20050809
Acreage:	9
Alternate name:	Not Reported
County:	Richmond
City:	Richmond
Applicable Criteria:	Architecture/Engineering
Areas of significance:	Architecture
Current Function:	Government
Building Material:	Stone
Building Material:	Asphalt
Building Material:	Limestone
Alternate name:	Old State Library;Executive Office Building
Alternate name:	Patrick Henry Building

Flood Plain Map



- Major Roads
- Contour Lines
- Waterways
- County Boundary
- Airports
- Power Lines
- Pipe Lines
- Fault Lines
- Water
- 100-year flood zone
- 500-year flood zone
- Electronic FEMA data available
- Electronic FEMA data not available

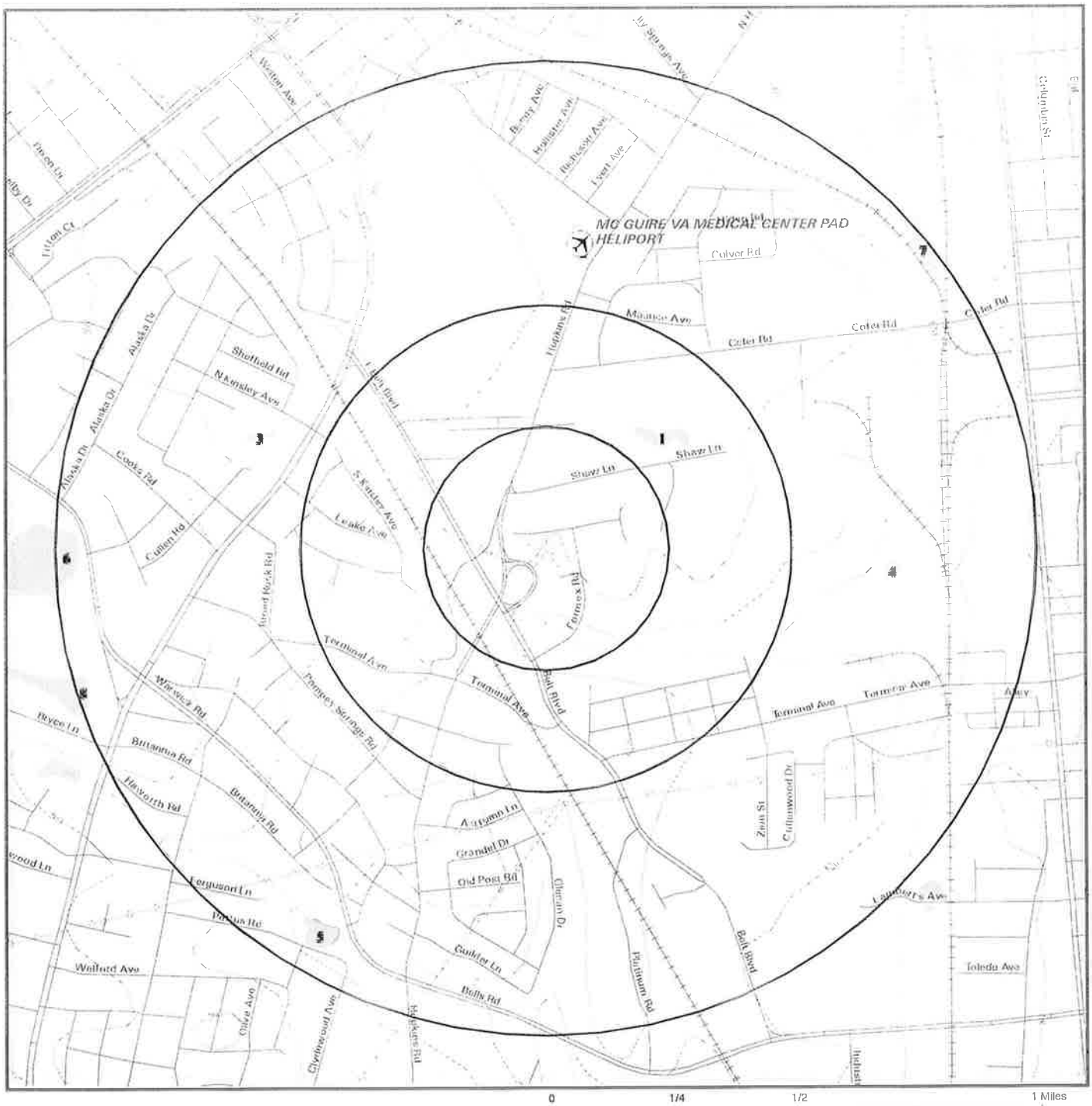
SITE NAME: Cephas Biomass Facility	CLIENT: Timmons Group
ADDRESS: 3413 Formex Road Richmond VA 23224	CONTACT: David Schul
LAT/LONG: 37.4869 / 77.4635	INQUIRY #: 2752659.1s DATE: April 22, 2010

FLOOD PLAIN MAP FINDINGS

Source: FEMA DFIRM Flood Data, FEMA Q3 Flood Data

County	FEMA flood data electronic coverage
RICHMOND CITY, VA	YES
Flood Plain panel at target property:	510129 (FEMA DFIRM Flood data)
Additional Flood Plain panel(s) in search area:	None Reported

National Wetlands Inventory Map



- Major Roads
- Contour Lines
- Waterways
- County Boundary
- Airports
- Power Lines
- Pipe Lines
- Fault Lines
- Water
- National Wetland Inventory
- Electronic NWI data available
- Electronic NWI data not available

N

SITE NAME: Cephas Biomass Facility	CLIENT: Timmons Group
ADDRESS: 3413 Formex Road Richmond VA 23224	CONTACT: David Schul
LAT/LONG: 37.4869 / 77.4635	INQUIRY #: 2752659.1s DATE: April 22, 2010

WETLANDS MAP FINDINGS

Source: Fish and Wildlife Service NWI data

NWI hardcopy map at target property: Drewrys Bluff
Additional NWI hardcopy map(s) in search area:
Richmond

Map ID Direction Distance Distance (ft.)	Code and Description*	Database
1 NE 1/4-1/2 mi 1576	PFO1E [P] Palustrine, [FO] Forested, [1] Broad-Leaved Deciduous, [E] Seasonally Flooded/Saturated Lat/Lon: 37.490326 / -77.460182	NWI
2 North 1/2-1 mi 3125	PEM1Ad [P] Palustrine, [EM] Emergent, [1] Persistent, [A] Temporarily Flooded, [d] Partially Drained/Ditched Lat/Lon: 37.495419 / -77.462250	NWI
3 WNW 1/2-1 mi 3143	PEM1B [P] Palustrine, [EM] Emergent, [1] Persistent, [B] Saturated Lat/Lon: 37.490303 / -77.473450	NWI
4 East 1/2-1 mi 3648	PUBHx [P] Palustrine, [UB] Unconsolidated Bottom, [H] Permanently Flooded, [x] Excavated Lat/Lon: 37.486046 / -77.450974	NWI
5 SSW 1/2-1 mi 4696	PUBHx [P] Palustrine, [UB] Unconsolidated Bottom, [H] Permanently Flooded, [x] Excavated Lat/Lon: 37.475620 / -77.471336	NWI
6 West 1/2-1 mi 5015	PFO4/1Ed [P] Palustrine, [FO] Forested, [4] Needle-Leaved Evergreen / , [FO] Forested, [1] Broad-Leaved Deciduous, [E] Seasonally Flooded/Saturated, [d] Partially Drained/Ditched Lat/Lon: 37.486767 / -77.480774	NWI
7 NE 1/2-1 mi 5096	PFO1A [P] Palustrine, [FO] Forested, [1] Broad-Leaved Deciduous, [A] Temporarily Flooded Lat/Lon: 37.494926 / -77.449120	NWI
8 WSW 1/2-1 mi 5144	PFO4Bd [P] Palustrine, [FO] Forested, [4] Needle-Leaved Evergreen, [B] Saturated, [d] Partially Drained/Ditched Lat/Lon: 37.482719 / -77.480431	NWI

*See Wetland Classification System for additional information.

WETLANDS CLASSIFICATION SYSTEM

National Wetland Inventory Maps are produced by the U.S. Fish and Wildlife Service, a sub-department of the U.S. Department of the Interior. In 1974, the U.S. Fish and Wildlife Service developed a criteria for wetland classification with four long range objectives:

- to describe ecological units that have certain homogeneous natural attributes,
- to arrange these units in a system that will aid decisions about resource management,
- to furnish units for inventory and mapping, and
- to provide uniformity in concepts and terminology throughout the U.S.

High altitude infrared photographs, soil maps, topographic maps and site visits are the methods used to gather data for the productions of these maps. In the infrared photos, wetlands appear as different colors and these wetlands are then classified by type. Using a hierarchical classification, the maps identify wetland and deepwater habitats according to:

- system
- subsystem
- class
- subclass
- modifiers

(as defined by Cowardin, et al. U.S. Fish and Wildlife Service FWS/OBS 79/31. 1979.)

The classification system consists of five systems:

1. marine
2. estuarine
3. riverine
4. lacustrine
5. palustrine

The marine system consists of deep water tidal habitats and adjacent tidal wetlands. The riverine system consists of all wetlands contained within a channel. The lacustrine systems includes all nontidal wetlands related to swamps, bogs & marshes. The estuarine system consists of deepwater tidal habitats and where ocean water is diluted by fresh water. The palustrine system includes nontidal wetlands dominated by trees and shrubs and where salinity is below .5% in tidal areas. All of these systems are divided in subsystems and then further divided into class.

National Wetland Inventory Maps are produced by transferring gathered data on a standard 7.5 minute U.S.G.S. topographic map. Approximately 52 square miles are covered on a National Wetland Inventory map at a scale of 1:24,000. Electronic data is compiled by digitizing these National Wetland Inventory Maps.

SYSTEM — **MARINE**

SUBSYSTEM — **1 - SUBTIDAL** — **2 - INTERTIDAL**

CLASS	Subclass (1 - SUBTIDAL)	Subclass (2 - INTERTIDAL)
RB-ROCK BOTTOM	1 Bedrock 2 Rubble	
UB-UNCONSOLIDATED BOTTOM	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	
AB-AQUATIC BED	1 Algal 3 Rooted Vascular 5 Unknown Submergent	1 Algal 3 Rooted Vascular 5 Unknown Submergent
RF-REEF	1 Coral 3 Worm	1 Coral 3 Worm
OW-OPEN WATER / Unknown Bottom		
RS-ROCKY SHORE		1 Bedrock 2 Rubble
US-UNCONSOLIDATED SHORE		1 Cobble-Gravel 2 Sand 3 Mud 4 Organic

SYSTEM — **E - ESTUARINE**

SUBSYSTEM — **1 - SUBTIDAL**

CLASS	Subclass
RB-ROCK BOTTOM	1 Bedrock 2 Rubble
UB-UNCONSOLIDATED BOTTOM	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic
AB-AQUATIC BED	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface
RF-REEF	2 Mollusk 3 Worm
OW-OPEN WATER / Unknown Bottom	

SUBSYSTEM — **2 - INTERTIDAL**

CLASS	Subclass
AB-AQUATIC BED	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface
RF-REEF	2 Mollusk 3 Worm
SB - STREAMBED	1 Cobble- Gravel 2 Sand 3 Mud 4 Organic
RS-ROCKY SHORE	1 Bedrock 2 Rubble
US-UNCONSOLIDATED SHORE	1 Cobble- Gravel 2 Sand 3 Mud 4 Organic
EM-EMERGENT	1 Persistent 2 Nonpersistent
SS-SCRUB SHRUB	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen
FO-FORESTED	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen

SYSTEM — **R - RIVERINE**

SUBSYSTEM	1 - TIDAL	2 - LOWER PERENNIAL	3 - UPPER PERENNIAL	4 - INTERMITTENT	5 - UNKNOWN PERENNIAL
CLASS	RB-ROCK BOTTOM UB-UNCONSOLIDATED BOTTOM		*SB-STREAMBED	AB-AQUATIC BED	RS-ROCKY SHORE US-UNCONSOLIDATED SHORE **EM-EMERGENT OW-OPEN WATER Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble 3 Cobble-Gravel 4 Sand 5 Mud 6 Organic 7 Vegetated	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Bedrock 2 Rubble 1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated 2 Nonpersistent

* STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM.
**EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS.

SYSTEM — **L - LACUSTRINE**

SUBSYSTEM — **1 - LIMNETIC**

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	OW-OPEN WATER/ Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	

SUBSYSTEM — **2 - LITTORAL**

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE	EM-EMERGENT	OW-OPEN WATER/ Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

SUBSYSTEM — **P - PALUSTRINE**

CLASS	RB--ROCK BOTTOM	UB--UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	US--UNCONSOLIDATED SHORE	ML--MOSS-LICHEN	EM--EMERGENT	SS--SCRUB-SHRUB	FO--FORESTED	OW-OPEN WATER/ Unknown
Bottom									
Subclass	1 Bedrock 2 Rubble 3 Mud 4 Organic	1 Cobble-Gravel 2 Sand	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Moss 2 Lichen	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6Deciduous 7 Evergreen	

MODIFIERS

In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME

Non-Tidal

- A Temporarily Flooded
- B Saturated
- C Seasonally Flooded
- D Seasonally Flooded/ Well Drained
- E Seasonally Flooded/ Saturated
- F Semipermanently Flooded
- G Intermittently Exposed

Tidal

- H Permanently Flooded
- J Intermittently Flooded
- K Artificially Flooded
- W Intermittently Flooded/Temporary
- Y Saturated/Semipermanent/ Seasonal
- Z Intermittently Exposed/Permanent
- U Unknown

CoastalHalinityInlandSalinitypHModifiersfor

- K Artificially Flooded
- L Subtidal
- M Irregularly Exposed
- N Regularly Flooded
- P Irregularly Flooded
- *S Temporary-Tidal
- *R Seasonal-Tidal
- *T Semipermanent -Tidal
- V Permanent -Tidal
- U Unknown

*These water regimes are only used in tidally influenced, freshwater systems.

WATER CHEMISTRY

- 1 Hyperhaline
- 2 Euhaline
- 3 Mixohaline (Brackish)
- 4 Polyhaline
- 5 Mesohaline
- 6 Oligohaline
- 0 Fresh
- 7 Hypersaline
- 8 Eusaline
- 9 Mixosaline
- 0 Fresh

all Fresh Water

- a Acid
- i Circumneutral
- i Alkaline

SOIL

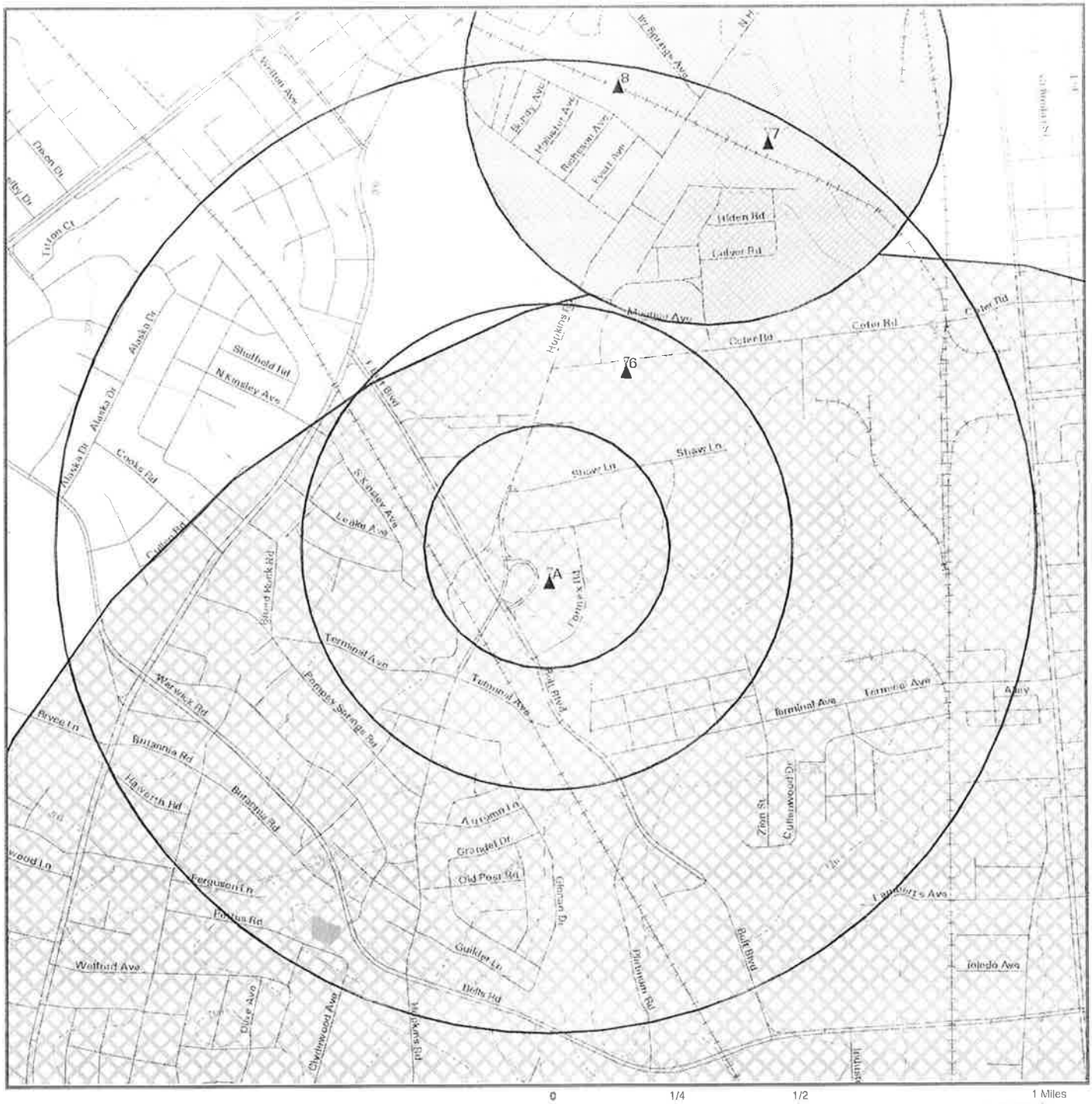
- g Organic
- n Mineral

SPECIAL MODIFIERS

- b Beaver
- d Partially Drained Ditched
- f Farmed
- h Diked/Impounded
- r Artificial Substrate
- s Spoil
- x Excavated

Source: U.S. Department of the Interior
Fish and Wildlife Service
National Wetlands Inventory

FCC & FAA Sites Map



SITE NAME: Cephas Biomass Facility	CLIENT: Timmons Group
ADDRESS: 3413 Formex Road	CONTACT: David Schul
Richmond VA 23224	INQUIRY #: 2752659.1s
LAT/LONG: 37.4869 / 77.4635	DATE: April 22, 2010

FCC & FAA SITES MAP FINDINGS
TOWERS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

A1
South
0-1/8 mi
337

ANT100000016679
ANTREG

Tower ID:	1017158		
Address:	3300 COASTAL BLVD, RICHMOND, VA		
Lat (NAD 27):	372909	Lon (NAD 27):	0772750
Lat (NAD 83):	372910	Lon (NAD 83):	0772749
Construction Date:	Mar 25 1996	Dismantled Date:	
Nepa Flag:	N	FAA ID:	96-AEA-2021-OE
Structure Type:	TOWER	Elevation (M):	45.70
Structure Hgt (M):	68.30	Hgt Above Ground:	68.30
Hgt Above Ground (M):	68.2760314	Hgt Above Mean Sea Level (M):	113.996582
Date Activated:	Feb 2 1999	License Issue Date:	Apr 29 1997
Date Keyed:	Mar 25 1997	Date Printed:	Apr 30 1997
Date Processed:	Mar 25 1997	Date Received:	Mar 25 1997
Licensee Signature	VINCENT R. CLAWSON		
Nature of Modification:		Purpose:	R
Company (DBA) Name:	CELLULAR ONE		
Owner Name:	RCTC WHOLESALE CORPORATION		
Attention:	DAVID APPERSON		
Owner Address:	2501 GOODES BRIDGE RD, RICHMOND, VA 23224		
Owner PO Box:		Phone Number:	8043307282
E-Mail Address:			
Internet Domain:			
Painting & Lighting Specs:		Date of Last Remarks:	
Special Conditions #1:			
Special Conditions #2:			
Key Remarks:			

This record is for a license, and it may or may not indicate a site which has been built.

FCC & FAA SITES MAP FINDINGS
TOWERS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

A2
South
0-1/8 mi
340

CEL100000032171
CELLULAR

Low Frequency:	870.03000000	High Frequency:	879.99000000
Callsign:	KNKA350	Radio Code:	CL
DBA Name:	RICHMOND CELLULAR TELEPHONE COMPANY		
Contact:	Not Reported		
Licensee:	RICHMOND CELLULAR TELEPHONE COMPANY Not Reported RICHMOND, VA 23236		
Transmitter Address:	1.5 MILES NE OF INTERSECTION OF SR150 & RICHMOND, VA		
County:	HENRICO		
Latitude:	372909	Longitude:	0772749
Elevation:	00000	Height:	00000
Height Average:	00000	Effective Height:	00000
Structure Height:	00000	Class Code:	FB
ERP:	10000000	Database ID:	Y
License Date:	940219	Emissions:	40K0F3E 40K0F1D
Issue Date:	940126	Expiration Date:	961001
Mobile Vehicles:	Not Reported	Total Units:	Not Reported
Control Point Auth:	00	Authorization Type:	L

This record is for a license, and it may or may not indicate a site which has been built.

A3
South
0-1/8 mi
340

CEL100000003926
CELLULAR

Low Frequency:	825.03000000	High Frequency:	834.99000000
Callsign:	KNKA350	Radio Code:	CL
DBA Name:	RICHMOND CELLULAR TELEPHONE COMPANY		
Contact:	Not Reported		
Licensee:	RICHMOND CELLULAR TELEPHONE COMPANY Not Reported RICHMOND, VA 23236		
Transmitter Address:	1.5 MILES NE OF INTERSECTION OF SR150 & RICHMOND, VA		
County:	HENRICO		
Latitude:	372909	Longitude:	0772749
Elevation:	00000	Height:	00000
Height Average:	00000	Effective Height:	00000
Structure Height:	00000	Class Code:	MO
ERP:	10000000	Database ID:	Y
License Date:	940219	Emissions:	40K0F3E 40K0F1D
Issue Date:	940126	Expiration Date:	961001
Mobile Vehicles:	Not Reported	Total Units:	Not Reported
Control Point Auth:	00	Authorization Type:	L

This record is for a license, and it may or may not indicate a site which has been built.

FCC & FAA SITES MAP FINDINGS
TOWERS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

A4
South
0-1/8 mi
340

TOW100000002430
TOWER

Tower ID:	104542		
Tower Owner Name:	RICHMOND CELLULAR TELEPHONE CO.		
	1.5 M NE SR-150 & US 360, RICHMOND, VA		
Latitude:	37 29' 134949"	Latitude (in seconds):	134949
Longitude:	77 27' 49"	Longitude (in seconds):	278869
Transmitter Latitude:	372909	Transmitter Longitude	0772749
Construction Date:	12/03/1990	Activation Date:	Mar 2 1990
FAA Date:	Dec 14 1989	FCC Date:	Dec 21 1989
File Number:	4594-CL-L-90	FAA ID:	89-AEA-1998-OE
Antenna Height:	14.0000	Antenna Height (M):	4.3000
Beacon Height:	0.0000	Beacon Height (M):	0.0000
Elevation:	394.0000	Elevation FAA:	394.0000
Elevation FAA (M):	120.1000	Elevation (M):	120.1000
Structure Height:	244.0000	Structure Height (M):	74.4000
Structure Height FAA:	244.0000	Structure Height FAA (M):	74.4000
Supporting Struct Hgt:	0.0000	Supporting Struct Hgt (M):	0.0000
Tower Height:	230.0000	Tower Height (M):	70.1000
Structure Type:	TOW	Tower Type:	E
Key Remarks:		Date:	
Key Site:	37745	Record Action:	ADD
ID Exam:	ASB4	ID_ASB_ACC:	A
Paint and Lighting Specs:	1 11 21 3		
Special Conditions/Remarks:			

This record is for a license, and it may or may not indicate a site which has been built.

A5
South
0-1/8 mi
390

DOF100000063299
FAA DOF

Nacg code:	47	Obs number:	1101
O or u:	O	State id:	VA
City name:	RICHMOND	Latdeg:	37
Latmin:	29		
Latsec:	9		
Lat hemi:	N	Longdeg:	77
Longmin:	27		
Longsec:	49		
Long hemi:	W	Obs type:	TOWER
Frequency:	Not Reported	Agl ht:	0244

FCC & FAA SITES MAP FINDINGS
TOWERS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

Amsl ht:	00394	Strobe ind:	D
Acc h:	5	Acc v:	D
Mark ind:	Y	Faa stdy n:	98EA1686
Act acd dt:	C99116	Datchk cd:	235606
Dat file:	AEA	Site id:	DOF100000063299

6
NNE
1/4-1/2 mi
2119

DOF100000063321
FAA DOF

Nacg code:	47	Obs number:	6158
O or u:	U	State id:	VA
City name:	RICHMOND	Latdeg:	37
Latmin:	29		
Latsec:	32		
Lat hemi:	N	Longdeg:	77
Longmin:	27		
Longsec:	38		
Long hemi:	W	Obs type:	TOWER
Frequency:	Not Reported	Agl ht:	0168
Amsl ht:	00328	Strobe ind:	Not Reported
Acc h:	Not Reported	Acc v:	Not Reported
Mark ind:	Not Reported	Faa stdy n:	Not Reported
Act acd dt:	A76053	Datchk cd:	161122
Dat file:	AEA	Site id:	DOF100000063321

7
NNE
1/2-1 mi
5026

DOF100000063341
FAA DOF

Nacg code:	47	Obs number:	1725
O or u:	O	State id:	VA
City name:	RICHMOND	Latdeg:	37
Latmin:	29		
Latsec:	56.53		
Lat hemi:	N	Longdeg:	77
Longmin:	27		
Longsec:	18.94		
Long hemi:	W	Obs type:	TOWER
Frequency:	Not Reported	Agl ht:	0415
Amsl ht:	00575	Strobe ind:	D
Acc h:	5	Acc v:	D
Mark ind:	N	Faa stdy n:	01EA0914
Act acd dt:	CA5009	Datchk cd:	233746
Dat file:	AEA	Site id:	DOF100000063341

FCC & FAA SITES MAP FINDINGS
TOWERS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

8
North
1/2-1 mi
5089

TOW100000076059
TOWER

Tower ID:	70750		
Tower Owner Name:	RICHMOND RADIO, LIMITED PARTNERSHIP		
1003 HOLLY SPRINGS AVENUE, RICHMOND, VA			
Latitude:	37 30' 135002"	Latitude (in seconds):	135002
Longitude:	77 27' 40"	Longitude (in seconds):	278860
Transmitter Latitude:	373002	Transmitter Longitude	0772740
Construction Date:		Activation Date:	Aug 18 1988
FAA Date:		FCC Date:	Jul 10 1986
File Number:	BPH-851216OC	FAA ID:	87-AEA-1879-OE
Antenna Height:	0.0000	Antenna Height (M):	0.0000
Beacon Height:	0.0000	Beacon Height (M):	0.0000
Elevation:	497.0000	Elevation FAA:	497.0000
Elevation FAA (M):	151.5000	Elevation (M):	151.5000
Structure Height:	317.0000	Structure Height (M):	96.6000
Structure Height FAA:	317.0000	Structure Height FAA (M):	96.6000
Supporting Struct Hgt:	0.0000	Supporting Struct Hgt (M):	0.0000
Tower Height:	0.0000	Tower Height (M):	0.0000
Structure Type:	TOW	Tower Type:	E
Key Remarks:		Date:	
Key Site:	37787	Record Action:	MOD
ID Exam:	ASB4	ID_ASB_ACC:	Y
Paint and Lighting Specs:	1 12 21 3		
Special Conditions/Remarks:			

This record is for a license, and it may or may not indicate a site which has been built.

FCC & FAA SITES MAP FINDINGS
AIRPORTS

EDR ID
Database

AIR18275
AIRPORTS

Site Number:	25977.1*H		
Airport Type:	HELIPORT	State:	VIRGINIA
County:	RICHMOND	City:	RICHMOND
Facility Name:	MC GUIRE VA MEDICAL CENTER PAD	Owner type:	PU
Use:	PR	Owner:	MC GUIRE VA MEDICAL CENTER
Owner Address	1201 BROAD ROCK BLVD	City/State:	RICHMOND, VA 23249
Phone:	804-233-0095	Mgmt Name:	MEDICAL CENTER DIRECTOR
Mgmt Address:	1201 BROAD ROCK BLVD	Mgmt City/St:	RICHMOND, VA 23249
Mgmt Phone:	804-233-0095	Latitude:	37-29-45.530N
Longitude:	077-27-43.942W	Lat Method:	E
Elev (ft):	178	Elev method:	E
Aero chart:	WASHINGTON	Dist from Business:	06
Dir from Business:	W	Date Active:	Not Reported
Certified Date:	Not Reported	Fed agreements:	Not Reported
Is Int'l Airport?:	Not Reported	Is Customs Airport?:	Not Reported
Inspection Method:	2	Inspected by:	N
Last inspected:	Not Reported	Attendance:	UNATNDD
Lighting:	Not Reported	Has ATC Tower:	N
Beacon Color:	Not Reported	Landing fee:	N
Single engine:	Not Reported	Multi engine:	Not Reported
Jet engines:	Not Reported	Helicopters:	Not Reported
Gliders:	Not Reported	Military:	Not Reported
Ultralights:	Not Reported	Commercial:	Not Reported
Air taxis:	Not Reported	Local ops:	Not Reported

Runway id:	H1	Length:	100
Width:	100	Surface:	ASPH
Lights Intensity:	Not Reported	Base End Id:	H1
Markings:	Not Reported	Latitude:	Not Reported
Longitude:	Not Reported	Elevation:	Not Reported
Approach lights:	Not Reported	End Lights:	Not Reported
Centerline Lights:	Not Reported	Touchdown Lights:	Not Reported
Recip End ID:	Not Reported	Recip markings:	Not Reported
Recip Lat:	Not Reported	Recip Long:	Not Reported
Recip Elev:	Not Reported	Recip App Lgts:	Not Reported
Recip End Lgts:	Not Reported	Recip Ctr Lgts:	Not Reported

FCC & FAA SITES MAP FINDINGS
POWERLINES

EDR ID
Database

POW0009935
POWERLINES

Msid:	MSX1006964- 1	Voltage:	230
Rangeflg:	0	Hi_range:	0
Type:	AC	Status:	AC
Corridor:	N	Ownr_id:	Not Reported
Own_name:	Not Reported	Opr_id:	Not Reported
Ownr_flg:	S	Coname:	Not Reported
Physaddres:	Not Reported	Physcity:	Not Reported
Physstate:	Not Reported	Physlposta:	Not Reported
Mailaddres:	Not Reported	Mailcity:	Not Reported
Mailstate:	Not Reported	Mailpostal:	Not Reported
Phone:	Not Reported	Fax:	Not Reported
Webpage:	Not Reported		

POW0009938
POWERLINES

Msid:	MSX1006965- 1	Voltage:	230
Rangeflg:	0	Hi_range:	0
Type:	AC	Status:	AC
Corridor:	N	Ownr_id:	Not Reported
Own_name:	Not Reported	Opr_id:	Not Reported
Ownr_flg:	S	Coname:	Not Reported
Physaddres:	Not Reported	Physcity:	Not Reported
Physstate:	Not Reported	Physlposta:	Not Reported
Mailaddres:	Not Reported	Mailcity:	Not Reported
Mailstate:	Not Reported	Mailpostal:	Not Reported
Phone:	Not Reported	Fax:	Not Reported
Webpage:	Not Reported		

POW0011559
POWERLINES

Msid:	MSX1007018- 1	Voltage:	230
Rangeflg:	0	Hi_range:	0
Type:	AC	Status:	AC
Corridor:	N	Ownr_id:	Not Reported
Own_name:	Not Reported	Opr_id:	Not Reported
Ownr_flg:	S	Coname:	Not Reported
Physaddres:	Not Reported	Physcity:	Not Reported
Physstate:	Not Reported	Physlposta:	Not Reported
Mailaddres:	Not Reported	Mailcity:	Not Reported
Mailstate:	Not Reported	Mailpostal:	Not Reported
Phone:	Not Reported	Fax:	Not Reported
Webpage:	Not Reported		

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Various Federal laws and executive orders address specific environmental concerns. NEPA requires the responsible offices to integrate to the greatest practical extent the applicable procedures required by these laws and executive orders. EDR provides key contacts at agencies charged with implementing these laws and executive orders to supplement the information contained in this report.

NATURAL AREAS
Officially designated wilderness areas
Government Records Searched in This Report

FED_LAND: Federal Lands
Source: USGS
Telephone: 703-648-5094
Federal data from Bureau of Land Management, National Park Service, Forest Service, and Fish and Wildlife Service.
- National Parks
- Forests
- Monuments
- Wildlife Sanctuaries, Preserves, Refuges
- Federal Wilderness Areas.
Date of Government Version: 12/31/2005

Federal Contacts for Additional Information

National Park Service, Northeast Region
200 custom Street, Fifth Floor
Philadelphia, PA 19106
215-597-7013

National Park Service, National Capital Region
1100 Ohio Drive, SW
Washington, DC 20242
202-619-7256

USDA Forest Service, Southern
1720 Peachtree Road, N.W.
Atlanta, GA 30367
404-347-2384

BLM - Eastern States Office
7450 Boston Blvd.
Springfield, VA 22153
703-440-1713

Fish & Wildlife Service, Region 5
Div. Of Personnel Mgmt. 300 Westgate Center Drive
Hadley, MA 01035-9589
413-253-8313

Officially designated wildlife preserves, sanctuaries and refuges
Government Records Searched in This Report

FED_LAND: Federal Lands
Source: USGS
Telephone: 703-648-5094
Federal data from Bureau of Land Management, National Park Service, Forest Service, and Fish and Wildlife Service.
- National Parks
- Forests
- Monuments
- Wildlife Sanctuaries, Preserves, Refuges
- Federal Wilderness Areas.
Date of Government Version: 12/31/2005

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Federal Contacts for Additional Information

Fish & Wildlife Service, Region 5
Div. Of Personnel Mgmt. 300 Westgate Center Drive
Hadley, MA 01035-9589
413-253-8313

State Contacts for Additional Information

Wild and scenic rivers

Government Records Searched in This Report

FED_LAND: Federal Lands
Source: USGS
Telephone: 703-648-5094
Federal data from Bureau of Land Management, National Park Service, Forest Service, and Fish and Wildlife Service.
- National Parks
- Forests
- Monuments
- Wildlife Sanctuaries, Preserves, Refuges
- Federal Wilderness Areas.

Date of Government Version: 12/31/2005

Federal Contacts for Additional Information

Fish & Wildlife Service, Region 5
Div. Of Personnel Mgmt. 300 Westgate Center Drive
Hadley, MA 01035-9589
413-253-8313

Endangered Species

Government Records Searched in This Report

Endangered Species Protection Program Database
A listing of endangered species by county.
Source: Environmental Protection Agency
Telephone: 703-305-5239

VA Endangered Species: VA Endangered Species
Virginia Endangered Species
Source: Department of Game and Inland Fisheries.
Telephone: 804-367-1000

Federal Contacts for Additional Information

Fish & Wildlife Service, Region 5
Div. Of Personnel Mgmt. 300 Westgate Center Drive
Hadley, MA 01035-9589
413-253-8313

State Contacts for Additional Information

Div. Of Natural Heritage, Dept. of Conservation & Recreation 804-367-1000

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

LANDMARKS, HISTORICAL, AND ARCHEOLOGICAL SITES

Historic Places

Government Records Searched in This Report

National Register of Historic Places:

The National Register of Historic Places is the official federal list of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and culture. These contribute to an understanding of the historical and cultural foundations of the nation.

The National Register includes:

- All prehistoric and historic units of the National Park System;
- National Historic Landmarks, which are properties recognized by the Secretary of the Interior as possessing national significance; and
- Properties significant in American, state, or local prehistory and history that have been nominated by State Historic Preservation Officers, federal agencies, and others, and have been approved for listing by the National Park Service.

Date of Government Version: 03/23/2006

VA Historic Sites: The Virginia Landmarks Register
A listing of historic sites on the State register. A compliation of the states buildings structures sites and districts that have been officially designated as historic landmarks by the Virginia Board of Historic Resources over the past thirty years.
Source: Department of Historic Resources.
Telephone: 804-367-2323

Federal Contacts for Additional Information

Park Service; Advisory Council on Historic Preservation
1849 C Street NW
Washington, DC 20240
Phone: (202) 208-6843

State Contacts for Additional Information

Department of Historic Resources 804-367-2323

Indian Religious Sites

Government Records Searched in This Report

Indian Reservations:

This map layer portrays Indian administrated lands of the United States that have any area equal to or greater than 640 acres.
Source: USGS
Phone: 888-275-8747
Date of Government Version: 12/31/2005

Federal Contacts for Additional Information

Department of the Interior- Bureau of Indian Affairs
Office of Public Affairs
1849 C Street, NW
Washington, DC 20240-0001
Office: 202-208-3711
Fax: 202-501-1516

National Association of Tribal Historic Preservation Officers
1411 K Street NW, Suite 700
Washington, DC 20005
Phone: 202-628-8476
Fax: 202-628-2241

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

State Contacts for Additional Information
A listing of local Tribal Leaders and Bureau of Indian Affairs Representatives can be found at:
http://www.doi.gov/bia/areas/agency.html

Scenic Trails

Government Records Searched in This Report
APPAL_TRAIL: Appalachian Trail
Source: Appalachian Trail Conference
Telephone: (304) 535-6331
Appalachian Trail centerline.

State Contacts for Additional Information
Appalachian Trail Conference
799 Washington Street P.O. Box 807
Harpers Ferry, WV 25425-0807
(304) 535-6331

Potomac Heritage Partnership
1623 28th Street, NW
Washington, D.C. 20007
202-338-6222

FLOOD PLAIN, WETLANDS AND COASTAL ZONE

Flood Plain Management
Government Records Searched in This Report
Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2009 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

Federal Contacts for Additional Information
Federal Emergency Management Agency 877-3362-627

State Contacts for Additional Information
Department of Emergency Services 804-897-6500

Wetlands Protection
Government Records Searched in This Report
NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2004 from the U.S. Fish and Wildlife Service.

Federal Contacts for Additional Information
Fish & Wildlife Service 813-570-5412

State Contacts for Additional Information
Dept. of Game & Inland Fisheries 804-367-9231

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Coastal Zone Management

Government Records Searched in This Report

CAMA Management Areas
Dept. of Env., Health & Natural Resources
919-733-2293

Federal Contacts for Additional Information

Office of Ocean and Coastal Resource Management
N/ORM, SSMC4
1305 East-West Highway
Silver Spring, Maryland 20910
301-713-3102

State Contacts for Additional Information

Coastal Program, Dept. of Environmental Quality 804-698-4320

FCC & FAA SITES MAP

For NEPA actions that come under the authority of the FCC, the FCC requires evaluation of Antenna towers and/or supporting structures that are to be equipped with high intensity white lights which are to be located in residential neighborhoods, as defined by the applicable zoning law.

Government Records Searched in This Report

Cellular

Federal Communications Commission
Mass Media Bureau
2nd Floor - 445 12th Street SW
Washington DC 20554 USA
Telephone (202) 418-2700

Tower

Federal Communications Commission
Mass Media Bureau
2nd Floor - 445 12th Street SW
Washington DC 20554 USA
Telephone (202) 418-2700

Antenna Registration

Federal Communications Commission
Mass Media Bureau
2nd Floor - 445 12th Street SW
Washington DC 20554 USA
Telephone (202) 418-2700

AM Tower

Federal Communications Commission
Mass Media Bureau
2nd Floor - 445 12th Street SW
Washington DC 20554 USA
Telephone (202) 418-2700

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

FAA Digital Obstacle File
Federal Aviation Administration (FAA)
1305 East-West Highway, Station 5631
Silver Sprinng, MD 20910-3281
Telephone: 301-713-2817
Describes known obstacles of interest to aviation users in the US. Used by the Federal Aviation Administration (FAA) and the National Oceanic and Atmospheric Administration to manage the National Airspace System.

Airport Landing Facilities
Federal Aviation Administration
Telephone (800) 457-6656
Private and public use landing facilities.

Electric Power Transmission Line Data
PennWell Corporation
Telephone: (800) 823-6277
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Excessive Radio Frequency Emission
For NEPA actions that come under the authority of the FCC, Commission actions granting construction permits, licenses to transmit or renewals thereof, equipment authorizations or modifications in existing facilities, require the determination of whether the particular facility, operation or transmitter would cause human exposure to levels of radio frequency in excess of certain limits.

Federal Contacts for Additional Information
Office of Engineering and Technology
Federal Communications Commission
445 12th Street SW
Washington, DC 20554
Phone: 202-418-2470

OTHER CONTACT SOURCES

STREET AND ADDRESS INFORMATION

APPENDIX 5

Agency Project Review Letters

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

April 22, 2010

Ms. Rene Hypes
Environmental Review Coordinator
Virginia Department of Conservation and Recreation
Virginia Natural Heritage Program
217 Governor Street, Third Floor
Richmond, VA 23219

RE: Natural Heritage Review
Cephas Industries
Open-Loop Biomass Manufacturing Facility

Dear Ms. Hypes:

On behalf of Cephas Industries, and in accordance with Virginia code sections 10.1-1188 *et. seq.*, Timmons Group is completing an Environmental Impact Review in relation to the proposed construction of a 33,000 square foot metal building from recycled materials within the Broad Rock Industrial Park in Richmond, Virginia. The total project area is approximately 5.2 acres.

Timmons Group is submitting property information for your review to evaluate any apparent risk to federally listed endangered and/or threatened species. Vicinity and property layout maps are attached with the corresponding results of a Virginia Department of Game and Inland Fisheries, Fish and Wildlife Information Service Search Report.

Please review the enclosed material and send any comments or information you may have relating to this proposed project. Also, please contact me at (804) 200-6428 or at david.schul@timmons.com if you have any questions or require additional information.

Sincerely,

TIMMONS GROUP

David C. Schul
Environmental Technician

Attached

1001 Boulders Parkway, Suite 300 | Richmond, VA 23225
TEL 804.200.6500 FAX 804.560.1016
www.timmons.com

DCR
Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

INFORMATION SERVICES ORDER FORM

Updated 1/09

Print out and fill in this form and mail to:

Project Review Coordinator
DCR Division of Natural Heritage
217 Governor St.
Richmond, VA 23219
Voice: 804-371-2708 Fax: (804) 371-2674
nhreview@dcr.virginia.gov

ENVIRONMENTAL REVIEW SERVICES:

_X_ **Project Review** (30 calendar day turnaround)..**$90 per site**; add **$35 for 1-5** natural heritage occurrences (rare plants, rare animals, significant communities and karst) and **$60 for 6** or more occurrences.
Multi-quad project area **$90 per quad**.

___ **Project Review with Accompanying Map**...**$250 per site**; for projects with potential impact to Natural Heritage Resources, written comments with 8.5 X 11 map displaying Natural Heritage Screening Coverage.

___ **Priority Service** (5 business day turnaround)..**$500 surcharge**

Details: Describe project in the space below, please include detailed project description, project location information, acreage, and existing site conditions (photographs if available). Fax additional information as necessary. In order to ensure an accurate assessment, please **fax a site map** (preferably from a USGS topo map with identified project boundaries) to: **Environmental Review Coordinator @ (804) 371-2674**. Or you may send electronic copies of **all** information to **nhreview@dcr.virginia.gov**. **Incomplete submittal of information will delay the review process.**

Cephas Industries (Cephas) is proposing to construct an open-loop biomass manufacturing facility in Richmond, Virginia with funding assistance, in part, by the United States Department of Energy (DOE), through distributions to the Virginia Department of Mines, Minerals, and Energy (DMME). The proposed facility will be located on approximately 5.2 acres within Broad Rock Industrial Park. Development of the facility will include construction of an approximately 33,000 square foot metal building from recycled materials for housing operational equipment. This equipment will consist of conveyors, a shredder/grinder, a picking station, and a magnetic separator.

Natural Heritage Resource Reports & Distribution Maps

___Custom NHR Maps (describe, call for more information).....**$80/hour**

___Custom NHR Reports (describe, call for more information).....**$60/hour**

DCR
Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

INFORMATION SERVICES ORDER FORM

Updated 1/09

SUBSCRIPTION SERVICES:

Natural Heritage Data Explorer Subscription Service

___(unlimited access per subscription year, complete a digital license agreement).....**$1000/yr.**

Digital Conservation Sites Subscription Service (specify area of interest; complete a digital license agreement)

___Less than 1 county or 12 quads).....**$1000/yr.**

___13-100 quads.....**$3500/yr.**

___Statewide coverage.....**$6000/yr.**

Please provide details in the space below: (**failure to provide information will delay subscription processing**)

Conditions:

1. Digitized DCR natural heritage resource locational data for GIS or map production, whether provided by DCR digitally or entered by the client from tables or reports, may not be used without first completing a data licensing agreement with DCR Division of Natural Heritage. A license form is available on request.

2. Although DCR-DNH data are closely quality controlled, DCR-DNH makes no warranty as to the fitness of the data for any purpose.

3. Any publication of data provided by DCR, whether as text, table or map, must acknowledge Virginia DCR-Natural Heritage Program, and include the date the data were provided by DCR.

DCR
Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

INFORMATION SERVICES ORDER FORM

Updated 1/09

4. If fees are assessed, an invoice will be included with the response. **Please do not pre-pay.** Payment is due within 30 days of receipt. **Minimum charge for hourly fees is $60.**

I understand and agree to the above conditions: X **Yes (Required for Fee Services)**

PUBLICLY AVAILABLE PRODUCTS

DCR maintains lists of natural heritage resources monitored by the Natural Heritage Program. These lists provide information on taxonomy, rarity and federal/state legal statuses. These reports are not site specific and are **NOT** to be substituted for a project review or for on-site surveys required for environmental assessments of specific project areas.

Due to staff and budget constraints we ask that you use the online service whenever possible to download these lists of natural heritage resources:

___ Natural Heritage Resources of Virginia: Rare Animals **(PDF)**

___ Natural Heritage Resources of Virginia: Rare Plants **(PDF)**

County lists of natural heritage resources can be generated using the Internet Database Search Tool:

County Lists of Natural Heritage Resources

Send data and invoice (if applicable) to: (Please be sure to include a phone number so we may contact you if we have any questions regarding your data needs)

John T. Russell, Project Manager
Name:

Timmons Group
Company:

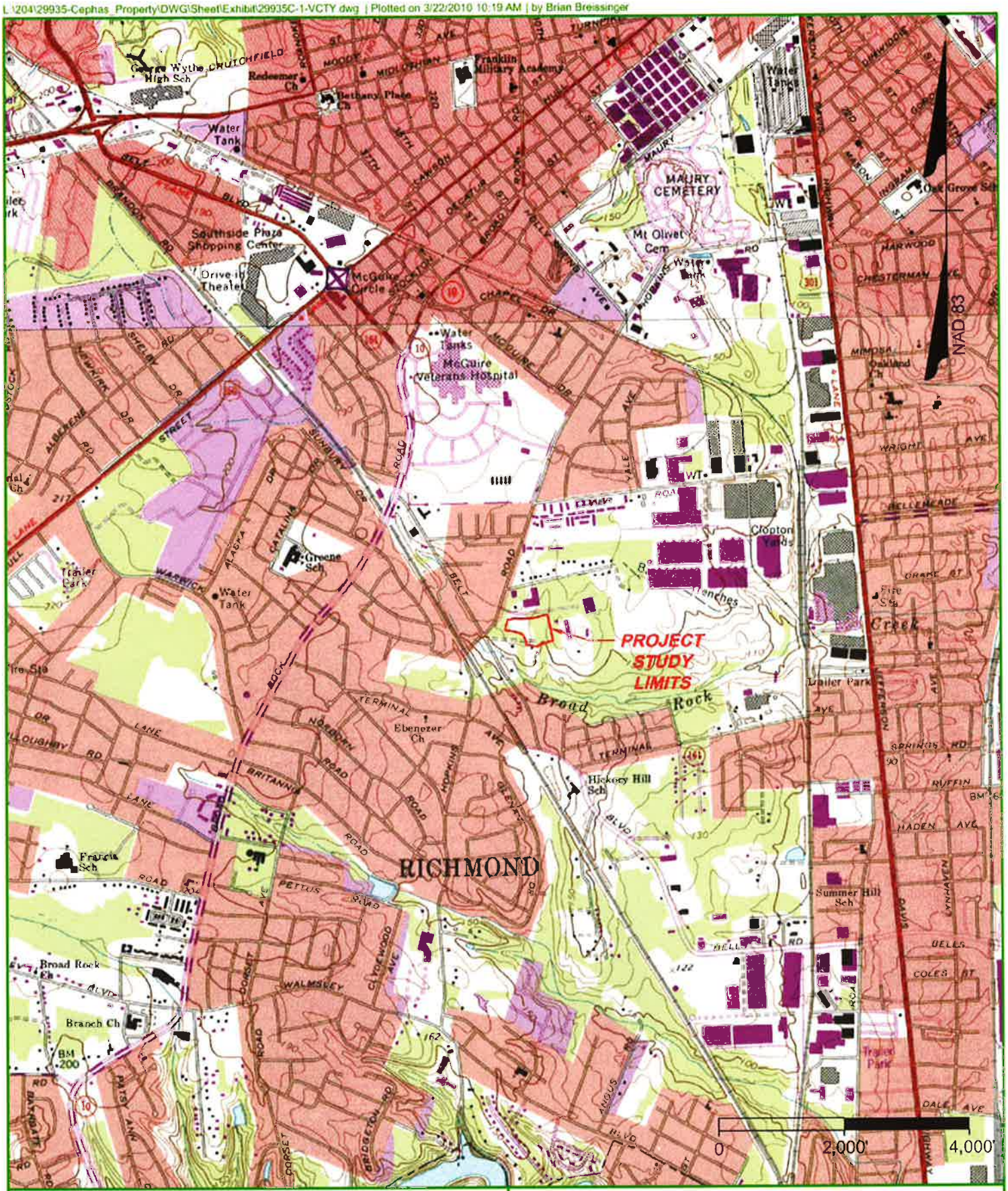
1001 Boulders Parkway - Suite 300
Address:

City/State/Zipcode: Richmond, Virginia 23225

john.russell@timmons.com
Email:

Phone: 804-200-6427 FAX: 804-560-1648 Taxpayer ID#: 54-1301413

L:\204\29935-Cephas_Property\DWG\Sheet\Exhibit\29935C-1-VCTY.dwg | Plotted on 3/22/2010 10:19 AM | by Brian Breissinger



CEPHAS PROPERTY

CITY OF RICHMOND, VIRGINIA

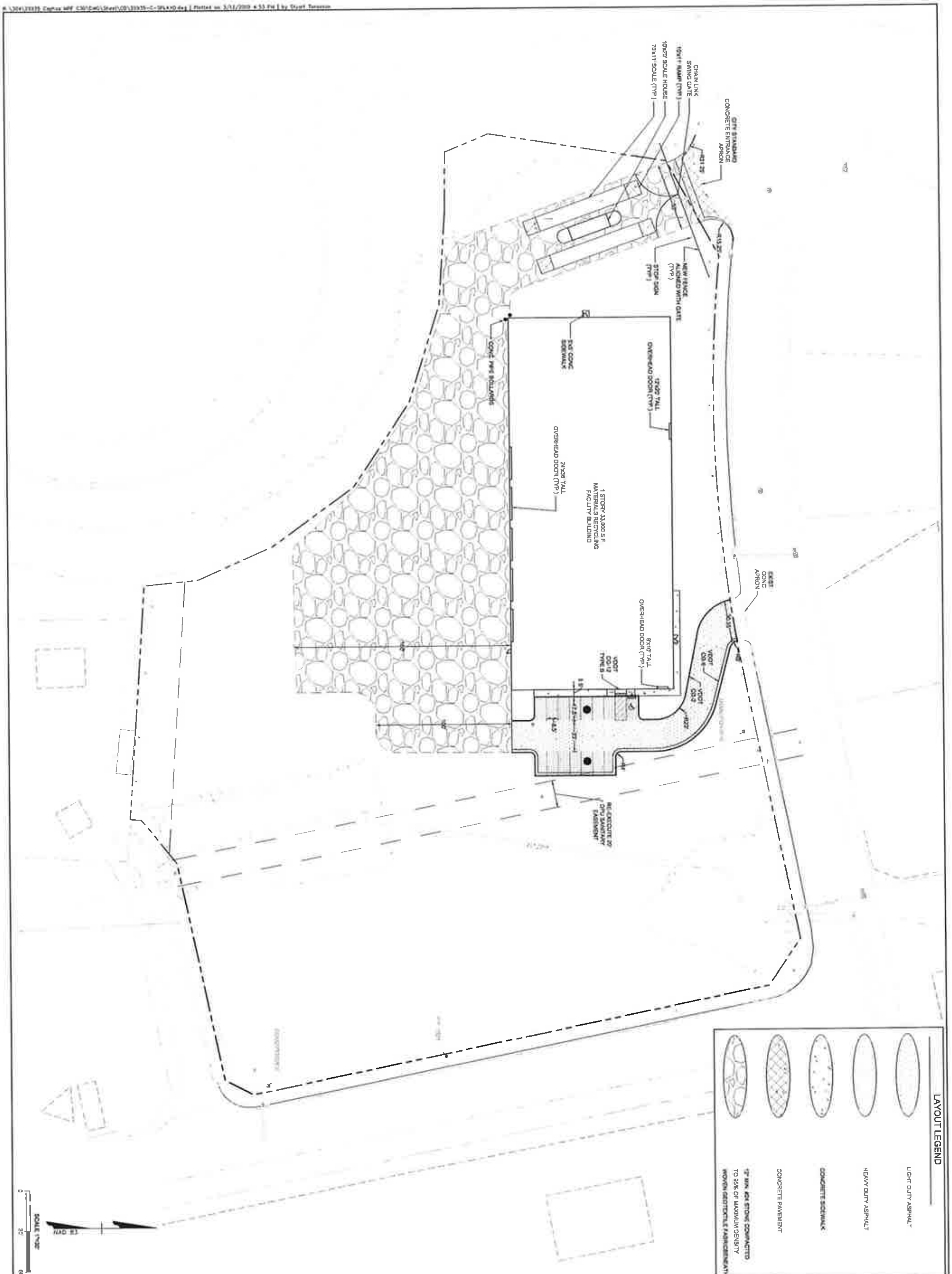
VICINITY MAP

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: *29935*
PROJECT STUDY LIMITS: *5.5 ACRES*
LATITUDE: *37°29'12"*
LONGITUDE: *77°27'48"*

U.S.G.S. QUADRANGLE(S): *DREWRYS BLUFF*
DATE: *1994*
WATERSHED: *JAMES RIVER, LOWER (TIDAL)*
HUC IDENTIFICATION: *NWBD JL01*



TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

THIS DRAWING PREPARED AT THE
Corporate Headquarters
1001 Boulders Parkway | Richmond, VA 23225
TEL 804 200 6500 FAX 804 560.1016 www.timmons.com

Site Development | Residential | Infrastructure | Technology

COMMONWEALTH OF VIRGINIA
STUART TORAASON
Lic. No. 04638
PROFESSIONAL ENGINEER

DATE	REVISION DESCRIPTION

JOB NO.	SHEET NO.		DATE	DRAWN BY	DESIGNED BY	CHECKED BY	SCALE
29935	C3.0	CEPHAS INDUSTRIES MRF RICHMOND, VA LAYOUT PLAN	03.19.10	S. TORAASON	S. TORAASON	A. GOULD	1"=30'

Virginia Department of Game and Inland Fisheries

3/31/2010 10:17:43 AM

Fish and Wildlife Information Service

VaFWIS Search Report Compiled on 3/31/2010, 10:17:43 AM

Help

Known or likely to occur within a **3 mile radius of 37,29,11.9 77,27,48.7**
in **041 Chesterfield County, 087 Henrico County, 760 Richmond City, VA**

457 Known or Likely Species ordered by Status Concern for Conservation
(displaying first 32) (32 species with Status* or Tier I**)

BOVA Code	Status*	Tier**	Common Name	Scientific Name
040096	ST	I	Falcon, peregrine	Falco peregrinus
040129	ST	I	Sandpiper, upland	Bartramia longicauda
040293	ST	I	Shrike, loggerhead	Lanius ludovicianus
020002	ST	II	Treefrog, barking	Hyla gratiosa
040093	FSST	II	Eagle, bald	Haliaeetus leucocephalus
060173	FSST	II	Pigtoe, Atlantic	Fusconaia masoni
040292	ST		Shrike, migrant loggerhead	Lanius ludovicianus migrans
100001	FS	IV	fritillary, Diana	Speyeria diana
010077	SS	I	Shiner, bridle	Notropis bifrenatus
010032	SS	II	Sturgeon, Atlantic	Acipenser oxyrinchus
040029	SS	II	Heron, little blue	Egretta caerulea caerulea
040266	SS	II	Wren, winter	Troglodytes troglodytes
030063	CC	III	Turtle, spotted	Clemmys guttata
040094	SS	III	Harrier, northern	Circus cyaneus
040036	SS	III	Night-heron, yellow-crowned	Nyctanassa violacea violacea
040204	SS	III	Owl, barn	Tyto alba pratincola
040264	SS	IV	Creeper, brown	Certhia americana
040180	SS	IV	Tern, Forster's	Sterna forsteri
040364	SS		Dickcissel	Spiza americana
040032	SS		Egret, great	Ardea alba egretta

040366	SS		Finch, purple	Carpodacus purpureus
040285	SS		Kinglet, golden-crowned	Regulus satrapa
040112	SS		Moorhen, common	Gallinula chloropus cachinnans
040262	SS		Nuthatch, red-breasted	Sitta canadensis
040189	SS		Tern, Caspian	Sterna caspia
040278	SS		Thrush, hermit	Catharus guttatus
040314	SS		Warbler, magnolia	Dendroica magnolia
050110	SS		Mole, star-nosed	Condylura cristata parva
050045	SS		Otter, northern river	Lontra canadensis lataxina
040225		I	Sapsucker, yellow-bellied	Sphyrapicus varius
040319		I	Warbler, black-throated green	Dendroica virens
060084		I	Pigtoe, Virginia	Lexingtonia subplana

To view **All 457 species** View 457

* FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; FS=Federal Species of Concern; SC=State Candidate; CC=Collection Concern; SS=State Special Concern

** I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Anadromous Fish Use Streams (3 records)

View Map of All Anadromous Fish Use Streams

Stream ID	Stream Name	Reach Status	Anadromous Fish Species			View Map
			Different Species	Highest TE*	Highest Tier**	
C88	James River 2	Confirmed	4		IV	Yes
C92	James River 1	Confirmed	6		IV	Yes
P60	Falling Creek	Potential	0			Yes

Impediments to Fish Passage (1 records)

View Map of All Fish Impediments

ID	Name	River	View Map
1014	FALLING CREEK RESERVOIR DAM	FALLING CREEK	Yes

Threatened and Endangered Waters

N/A

Cold Water Stream Survey (Trout Streams)
Managed Trout Species

N/A

Virginia Breeding Bird Atlas Blocks (8 records)

View Map of All Query Results
Virginia Breeding Bird Atlas Blocks

BBA ID	Atlas Quadrangle Block Name	Breeding Bird Atlas Species			View Map
		Different Species	Highest TE *	Highest Tier **	
50096	Bon Air, SE	65		IV	Yes
50084	Chesterfield, CE	16			Yes
51084	Drewrys Bluff, CE	3		IV	Yes
51083	Drewrys Bluff, CW	43		IV	Yes
51082	Drewrys Bluff, NE	2	SS	III	Yes
51081	Drewrys Bluff, NW	5			Yes
51096	Richmond, SE	64		II	Yes
51095	Richmond, SW	80		II	Yes

USFWS Breeding Bird Survey Routes

N/A

Christmas Bird Count Survey

N/A

Public Holdings:

N/A

Summary of BOVA Species Associated with Cities and Counties of the Commonwealth of Virginia:

FIPS Code	City and County Name	Different Species	Highest TE	Highest Tier
041	Chesterfield	397	FSST	I
087	Henrico	389	FSST	I
760	Richmond City	392	FSST	I

USGS 7.5' Quadrangles:
Chesterfield
Bon Air
Drewrys Bluff
Richmond

USGS NRCS Watersheds in Virginia:
H39 - JAMES RIVER/TUCKAHOE CREEK/NORWOOD CREEK
G01 - JAMES RIVER/FALLING CREEK/PROCTORS CREEK

USGS National 6th Order Watersheds Summary of Wildlife Action Plan Tier I, II, III, and IV Species:

HU6 Code	USGS 6th Order Hydrologic Unit	Different Species	Highest TE	Highest Tier
JL01	James River-Almond Creek	63	FSST	II
JL02	Falling Creek	55	FSST	II
JM86	James River-Little Westham Creek	63	FSST	I

audit no. 284301 3/31/2010 10:17:44 AM Virginia Fish and Wildlife Information Service

NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

U.S. DEPARTMENT OF ENERGY

April 30, 2010

U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Subject: Virginia State Energy Program's Cephas C&D Wastes Biomass Project, Richmond, Virginia. DOE/EA 1767

Dear Sir or Madam:

The U.S. Department of Energy (DOE) proposes to provide a financial grant to Virginia Department of Mines, Minerals, and Energy, and ultimately to Cephas C&D, through the State Energy Program of the *American Reinvestment and Recovery Act of 2009* (Recovery Act). Funding would be provided in a cost-shared arrangement to facilitate this renewable energy project.

This project was selected by the Virginia Department of Mines, Minerals, and Energy for cost-sharing through the State Energy Program and involves the construction of a new open-loop biomass manufacturing facility. Specifically, this proposal is for a chipped wood product facility that will prepare biomass to customer specifications for use in the customer's energy producing facilities. Raw materials will include wood debris such as trees, pallets, etc. The facility will be located in the existing Broad Rock Industrial Park in Richmond, Virginia. This project will involve the construction of a 33,000 square foot building on 6 acres within the existing industrial park, and will employ 50 workers. The scope of the project and the project location are attached for your reference.

As part of our coordination and consultation responsibilities and to comply with both Section 7 of the Endangered Species Act of 1973, as amended, and provisions of the Fish and Wildlife Coordination Act, we would appreciate receiving any information you have on important wildlife resources, including endangered and threatened species or critical habitat, in the project area. Information obtained from your website indicates two birds (Brown Pelican and Arctic Peregrine Falcon) and one flowering plant (Sensitive joint vetch) are known to occur in Richmond County. However, because this project will take place in an existing industrial park, we do not anticipate any impacts to these species or their habitats.

If you require any additional information, or have any questions or comments about this project please contact Mr. Cliff Whyte, NEPA Compliance Officer of the National Energy Technology Laboratory, as soon as possible, at the following:

Mr. Cliff Whyte
U.S. Department of Energy
National Energy Technology Laboratory
3610 Collins Ferry Road
P. O. Box 880, MS B07
Morgantown, WV 26507-0880
Telephone: (304) 285-2098
Email: Cliff.Whyte@netl.doe.gov

If your initial review concludes that no endangered or threatened species (or their habitat) are present in the project area and that neither protected species nor their habitat would be affected by the proposed action, a written acknowledgement of that conclusion would be appreciated.

Based on the scope of the project, DOE plans to prepare an Environmental Assessment (EA) in accordance with the requirements of the National Environmental Policy Act, to analyze, document, and disseminate information on the potential environmental consequences of the proposed project. Information that you provide will be incorporated and appropriately addressed in the EA. Upon completion of the draft EA, DOE will send a copy to your office for a 15 day public comment period, where you may again provide any specific concerns.

Since this is a Recovery Act project, selected on its technical merits and to assist with the nation's economic recovery, we would appreciate a quick response to our request for consultation.

Thank you for taking the time to review this letter. DOE looks forward to working with you on this and future projects.

Sincerely,

Cliff Whyte
NEPA Compliance Officer

Enclosures

SUMMARY
for the
PROPOSED CEPHAS INDUSTRIES
OPEN-LOOP BIOMASS MANUFACTURING FACILITY

Cephas Industries (Cephas) is proposing to construct an open-loop biomass manufacturing facility in Richmond, Virginia with funding assistance, in part, by the United States Department of Energy (DOE), through distributions to the Virginia Department of Mines Minerals and Energy (DMME). In accordance with the Code of Federal Regulations (CFR), Title 40, Parts 1500-1508 and Title 10, Part 1021, an Environmental Assessment (EA) will be prepared to evaluate the potential environmental impacts associated with construction and operation of the facility.

Background and Proposed Action

The demand for recycling construction and demolition (C&D) debris has rapidly increased in recent years prompting the construction of approximately 200 biomass manufacturing facilities nationwide, with more expected to be developed. Of particular value is the recycling of wood and woody material into biomass commodities that can be sold to end-users as an alternative fuel source. Studies have shown that the recycling of C&D debris serves to: produce alternative energy sources, conserve landfill space, reduce the environmental impact of producing new materials, and reduce overall construction project expenses by lessening disposal costs. Furthermore, the burning of biomass as an energy source has been shown to produce less greenhouse gasses than coal.

The Cephas Open Loop Biomass Manufacturing Facility is a shovel-ready biomass project that will support the C&D and recycling industries in metropolitan Richmond, Virginia. The proposed facility will be located on approximately 5.2 acres within Broad Rock Industrial Park, which is located within the Richmond City limits south of the James River. Development of the facility will include constructing an approximately 33,000 square foot metal building from recycled materials that will house the operational equipment. The facility will have the capacity to accept and process 250-500 tons of C&D debris on a weekly basis, of which approximately 35% is expected to be converted to biomass.

Purpose and Need

The purpose of constructing the Cephas Open-Loop Biomass Manufacturing Facility is to provide a needed service to the C&D industry within the Richmond Metropolitan area that does not presently exist. The operation of the Cephas facility will offer a more efficient means of C&D waste disposal that will ultimately promote the conservation of space in local area landfills. Concurrently, the Cephas facility will serve the purpose of manufacturing biomass to provide local industries with an alternative energy source that, when consumed, will regionally result in less environmental impact by releasing lower concentrations of greenhouse gasses. Furthermore, recycled C&D debris will be sold as a commodity to recycling facilities thereby strengthening the market for recycled materials. Lastly, the construction and operation of the Cephas facility will create green jobs in the Richmond Metropolitan area and thus support needed economic development and growth.

Facility Operations

The processing equipment associated with the proposed action will consist of conveyors, a shredder/grinder, a picking station, and a magnetic separator. The primary pieces of equipment include the following:

3660 CBI Grizzly Mill Feed Conveyor
Five (5) feet wide by 55 feet long, the conveyor has high sides and a channel frame. The belt rides in a bent steel trough that is constructed of one-quarter (1/4) inch abrasion resistant (AR) and hot rolled steel (HRS) plate and is protected with an AR side wear plate. The conveyor has an auxiliary loading area with high flared sides with a lagged head and self-cleaning tail pulleys. The belt is electrically driven. Legs are used, as necessary, to elevate the conveyor.

3660 CBI Grizzly Mill (400 HP)
An electrically driven, high performance, wood waste grinder that is capable of processing large diameter material.

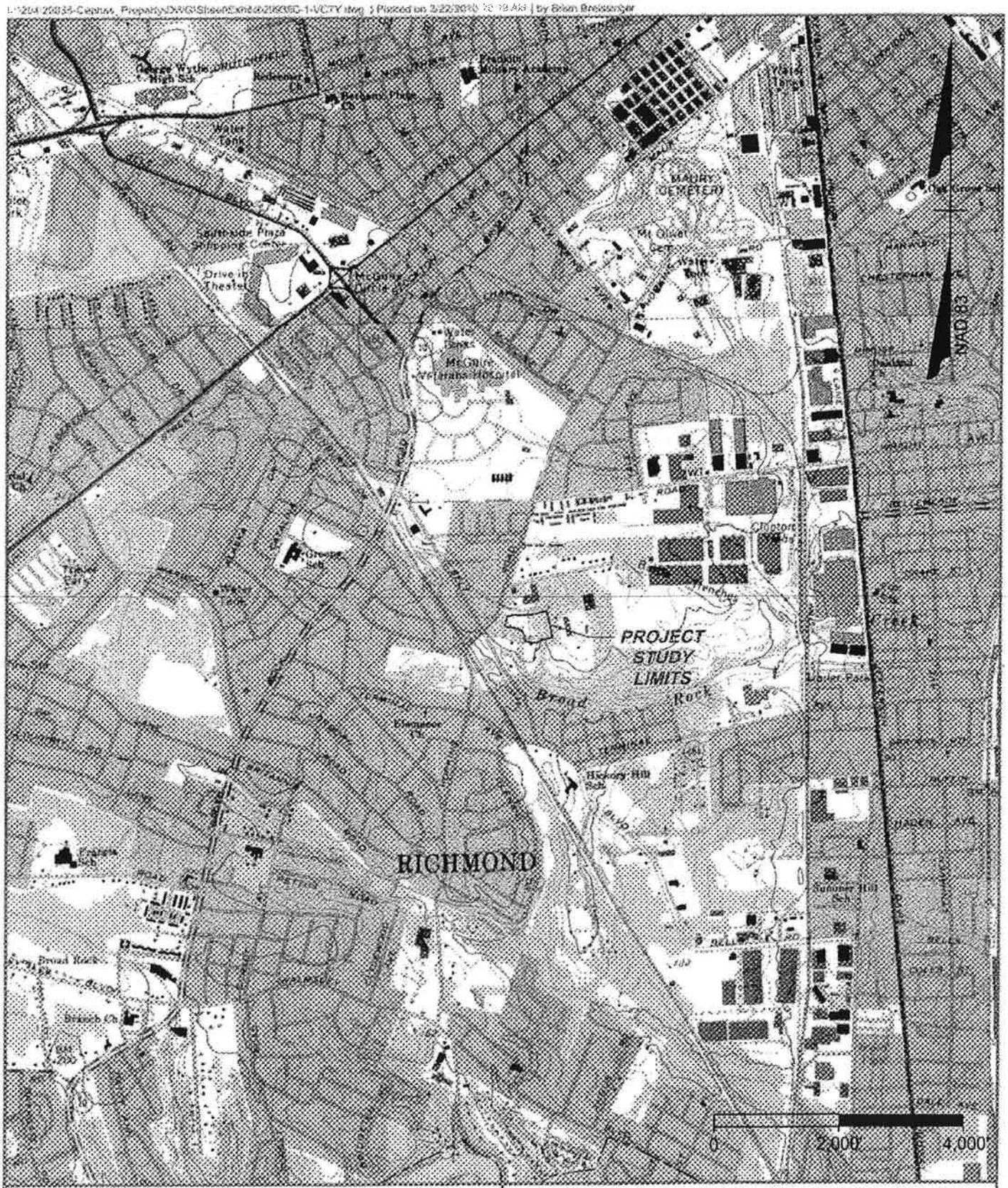
3660 CBI Grizzly Mill Discharge Conveyor
Four (4) feet wide by 75 feet long, the conveyor belt rides in a bent trough the belt rides in a bent steel trough that is constructed of one-quarter (1/4) inch AR and HRS plate and is protected with an AR side wear plate. The conveyor is electrically driven and has a lagged head and self-cleaning tail pulleys. Legs are used, as necessary, to elevate the conveyor.

Overband Magnet
A 27-inch by 48-inch permanent magnet with support structure and an electrically driven motor; overband magnets are designed for suspension over a horizontal or inclined conveyor, or over the head pulley. The magnetic field extracts tramp ferrous metal from the conveyor which is then automatically removed and deposited into a skip or collection bin at the side of the conveyor.

In addition to the equipment detailed above, a series of excavators and loaders will be utilized to transfer C&D debris for processing and to load the end products for distribution.

Attached:

- USGS – Vicinity Map
- Existing Conditions Plan
- Layout Plan



CEPHAS PROPERTY

CITY OF RICHMOND, VIRGINIA

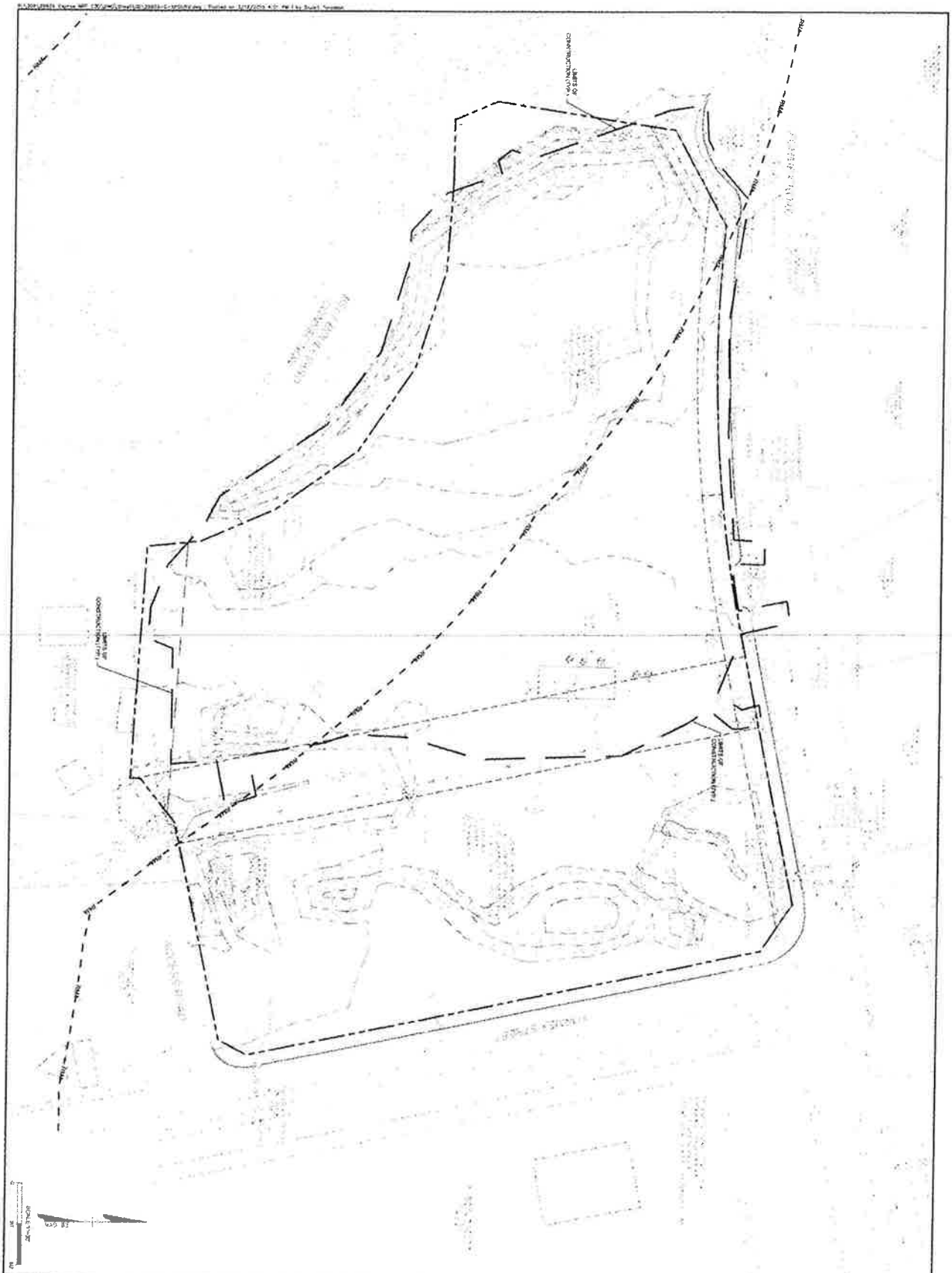
VICINITY MAP

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: 20835
PROJECT STUDY LIMITS: 5.5 ACRES
LATITUDE: 37°29'12"
LONGITUDE: 77°27'08"

U.S.G.S. QUADRANGLE(S): DREWRYS BLUFF
DATE: 1994
WATERSHED: JAMES RIVER, LOWER (TIDAL)
MS4 IDENTIFICATION: M060 3.01



TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS

THIS DRAWING PREPARED AT THE CHESTERFIELD REGIONAL OFFICE
1001 Boulders Parkway | Richmond, VA 23225
TEL 804 200 6500 FAX 804 560 1016 www.timmons.com

Site Development | Residential | Infrastructure | Technology

DATE	REVISION DESCRIPTION

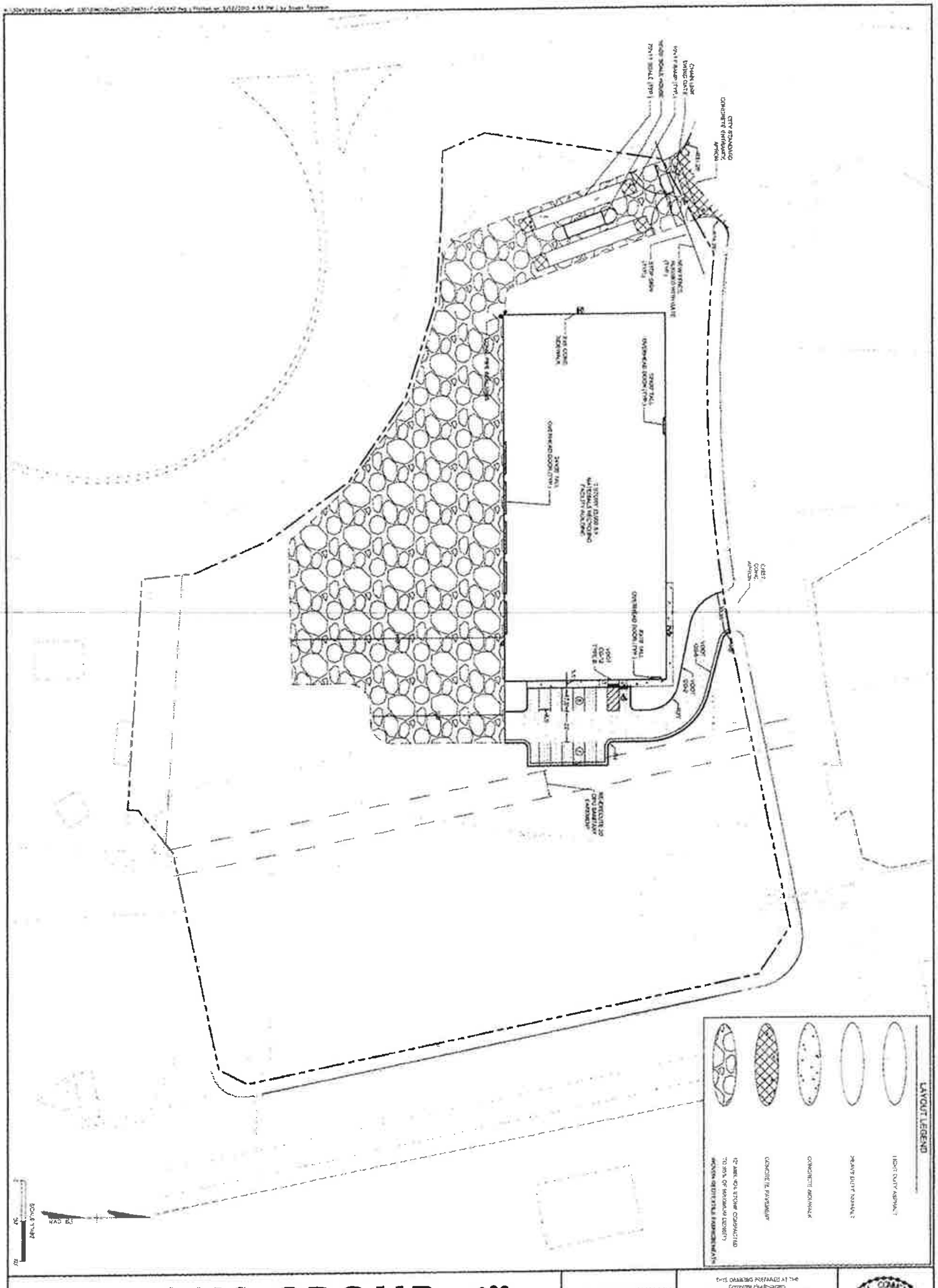
CEPHAS INDUSTRIES MRF

RICHMOND, VA

EXISTING CONDITIONS PLAN

C1.0

79935



TIMMONS GROUP

Site Development | Residential | Infrastructure | Technology

CEPHAS INDUSTRIES MRF

RICHMOND, VA

LAYOUT PLAN

29935

C3.0

NATIONAL ENERGY TECHNOLOGY LABORATORY
Albany, OR • Morgantown, WV • Pittsburgh, PA

U.S. DEPARTMENT OF ENERGY

April 30, 2010

Ms. Kathleen Kilpatrick, SHPO
Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

Subject: Virginia State Energy Program's Cephas C&D Wastes Biomass Project, Richmond, Virginia. DOE/EA 1767

Dear Ms. Kilpatrick:

The U.S. Department of Energy (DOE) proposes to provide a financial grant to Virginia Department of Mines, Minerals, and Energy, and ultimately to Cephas C&D, through the State Energy Program of the *American Reinvestment and Recovery Act of 2009* (Recovery Act). Funding would be provided in a cost-shared arrangement to facilitate this renewable energy project.

This project was selected by the Virginia Department of Mines, Minerals, and Energy for cost-sharing through the State Energy Program. This project involves the construction of a new open-loop biomass manufacturing facility. Specifically, this proposal is for a chipped wood product facility that will prepare biomass to customer specifications for use in the customer's energy producing facilities. Raw materials will include wood debris such as trees, pallets, etc. The facility will be located in the existing Broad Rock Industrial Park in Richmond, Virginia. This project will involve the construction of a 33,000 square foot building on 6 acres within the existing industrial park, and will employ 50 workers.

Based on a preliminary analysis, DOE has determined that the project would not cause any effects to any historic or archeological resources at the project site in Richmond, Virginia. However, please find the attached information regarding the project and the project review application form for your review and consideration.

DOE's National Energy Technology Laboratory is preparing an environmental assessment for this proposed project to meet the requirements of the National Environmental Policy Act. DOE intends to use the NEPA process to satisfy its Section 106 involvement obligations and, at this time, we anticipate implementing a 15-day public comment period for this proposed project. A copy of the draft environmental assessment will be sent to your office when released for public comment, where you may again provide any specific concerns.

Please forward the results of your review and any requests for additional information to the Department's National Energy Technology Laboratory using the contact information provided below.

Mr. Cliff Whyte
U.S. Department of Energy
National Energy Technology Laboratory
3610 Collins Ferry Road
P. O. Box 880, MS B07
Morgantown, WV 26507-0880
Telephone: (304) 285-2098
Email: Cliff.Whyte@netl.doe.gov

Since this is a Recovery Act project, we would appreciate a quick response to our request for consultation. Thank you for your assistance in this matter.

Sincerely,

Cliff Whyte
NEPA Document Manager

Enclosures

Requesting a Project Review from the Department of Historic Resources
for
State Energy Program Grants

The Department of Historic Resources is Virginia's State Historic Preservation Office, or SHPO.

Section 106 of the National Historic Preservation Act requires federal agencies, such as the Department of Energy, to consult with the SHPO and other stakeholders who may have knowledge of historic properties to identify historic properties that may be affected by a federal undertaking.

For additional information on the Section 106 process, you may access *Frequently Asked Questions* at http://www.dhr.virginia.gov/review/sect_106_faq1.htm. The web site of the Advisory Council on Historic Preservation, the federal agency that has oversight over the Section 106 process, also has further information on Section 106, such as *A Citizen's Guide to Section 106* (http://www.achp.gov/citizensguide.pdf) as well as the text of the Section 106 regulations (http://www.achp.gov/regs-rev04.pdf)

Mail the completed form to: Department of Historic Resources, 2801 Kensington Avenue, Richmond, VA 23221; fax 804-367-2391; e-mail ethel.eaton@dhr.virginia.gov. If you have any questions as you complete this form, please contact Ethel Eaton at 9804) 367-2323, ext. 112; ethel.eaton@dhr.virginia.gov

Project Review Application Form

I. GENERAL INFORMATION

1. Project Name Cephas Open Loop Biomass Facility

2. Project Address Location (Note: Do not use PO Box mailing address):

   Street Address: 3413 Formex Road, Richmond, Virginia 23224

   If rural: State Route _____, _____ miles __ of _____

3. DMME Contact Person Ms. Robin Jones

4. Project Contact Person Mr. Rick Thomas

   PHONE 804.200.6446 E-MAIL rick.thomas@timmons.com

5. Type of Project _____

6. Attach Project Map indicating the precise location of the project, preferably a clear color copy of a USGS topographic quadrangle map (7.5 minute). For projects in urban areas, please also include a city map that shows more detail. See Attached

II. DO YOU NEED TO SUBMIT A PROJECT FOR SHPO REVIEW?

State energy projects with little to no potential to affect historic properties do not require SHPO review. These projects are listed on Attachment A. Check the appropriate box if the project description fits your project. Then sign and date this form and submit it to DMME with your application to DMME.

If your project is not on the list in Attachment A, go on to complete Section III.

III. PROJECT DESCRIPTION

The *Area of potential effects (APE)* means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE varies with project types, and can be direct (Physical) or indirect (visual, audible).

For state energy projects the APE is limited to the individual building when a proposed project is limited to activities in the interior. If external features, such as solar panels, are considered, the APE will include the surrounding area within which the exterior features will be visible. If ground disturbance is proposed, the extent of the proposed ground disturbance will be considered part of the APE.

1. Attach a copy of the project map showing the Area of Potential Effects (APE). Describe the APE below.

The proposed facility will be located on approximately 5.2 acres within Broad Rock Industrial Park at 3413 Formex Road, which is located within the City of Richmond. The Area of Potential Effect for this project is within the construction footprint of the proposed facility. As the property is already in use as a collection and recycling facility, the majority of the site has already been disturbed.

2. Are any structures within the APE? YES ____ NO X

A. Date of construction N/A

B. Attach Photographs of front and sides of the building/structure as well as photographs of the surrounding area.
Photographs should be individually numbered, and corresponding numbers should be placed on the map or site plan, showing location and direction of view.

4. Project Narrative Description
The Cephas Open Loop Biomass Manufacturing Facility is a shovel-ready biomass project that will support the construction and demolition (C&D) and recycling industries in metropolitan Richmond, Virginia. The proposed facility will be located on approximately 5.2 acres within Broad Rock Industrial Park, which is located within the Richmond City limits south of the James River. Development of the facility will include constructing an approximately 33,000 square foot metal building from recycled materials that will house the operational equipment. The facility will have the capacity to accept and process 250-500 tons of C&D debris on a weekly basis, of which approximately 35% is expected to be converted to biomass.

5. Is your project located within an Historic District? Yes ____ No X Don't Know ____

If the answer is yes, is the district listed, considered eligible or locally designated? ____

Name of District ____

To the best of my knowledge, I have accurately described the proposed project and its likely impacts.

Rick Thomas — 4-30-10

Signature of Applicant/Agent — Date

POSSIBLE FINDINGS

No historic properties will be affected (i.e., none is present or there are historic properties present but the project will have no effect upon them). Section 106 will be considered *complete*.

The proposed undertaking will have no adverse effect on one or more historic properties located within the project APE. Section 106 will be considered *complete*.

The proposed undertaking will result in an adverse effect to one or more historic properties. Section 106 will be considered *incomplete*. The applicant must consult with the SHPO and other stakeholders on ways to reduce or mitigate the adverse effect. DOE must be provided with all project documentation and informed of the adverse effect.

DHR File No._____ _____

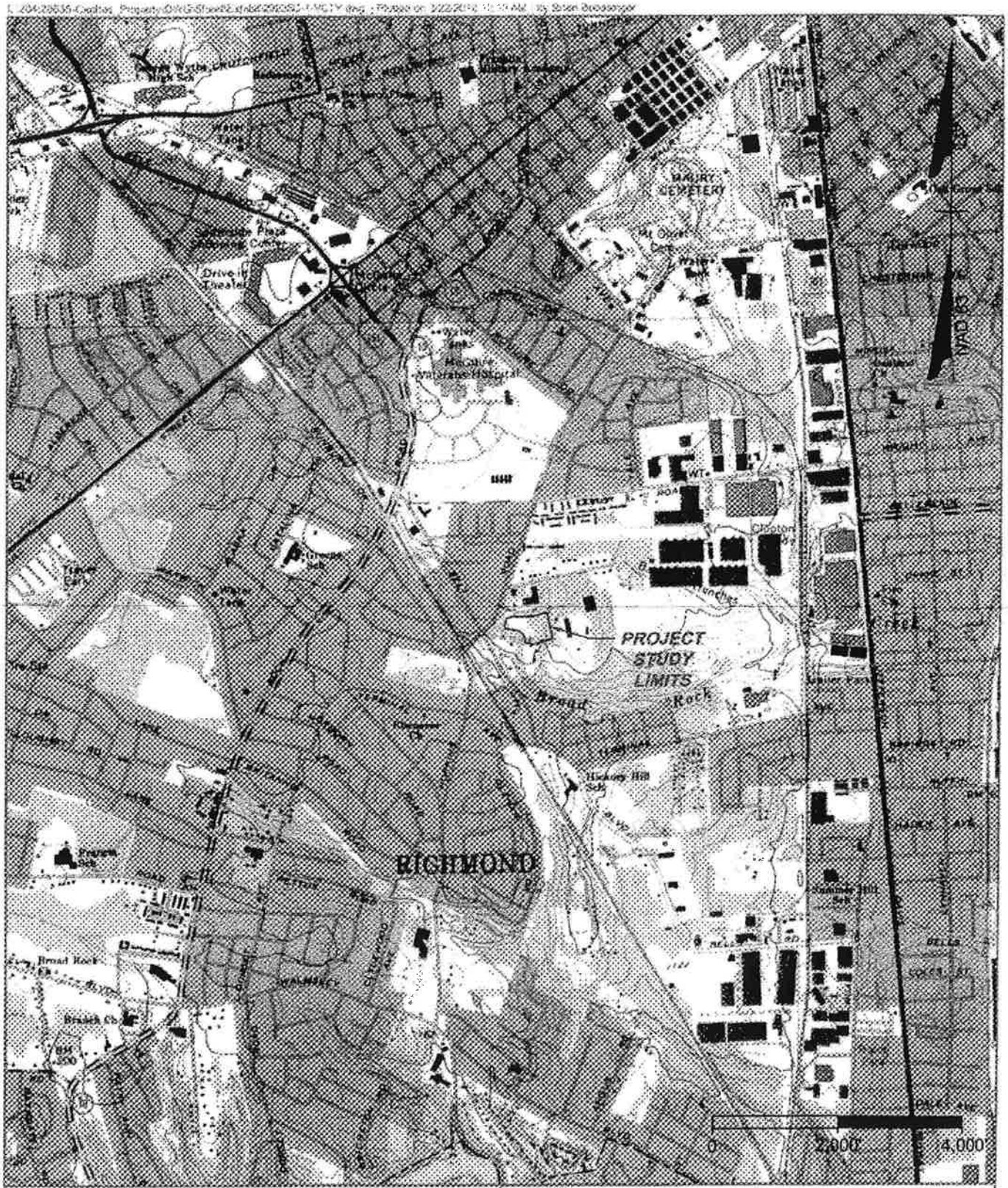
_____ **No historic properties affected**

_____ **No adverse effect**

_____ **Adverse effect**

Signature_____ Date _____

This space for Department of Historic Resources Use Only

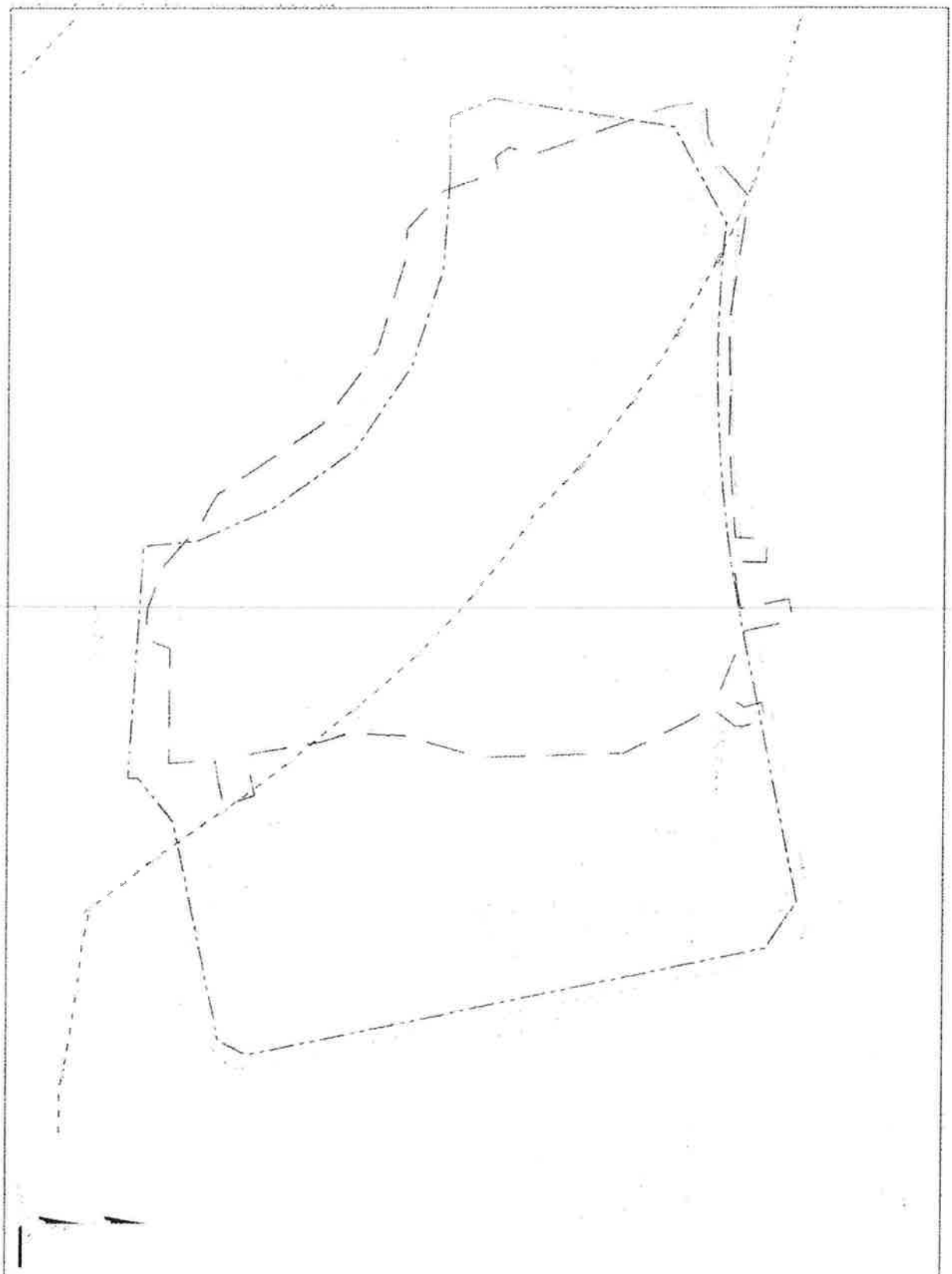


CEPHAS PROPERTY

VICINITY MAP

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS

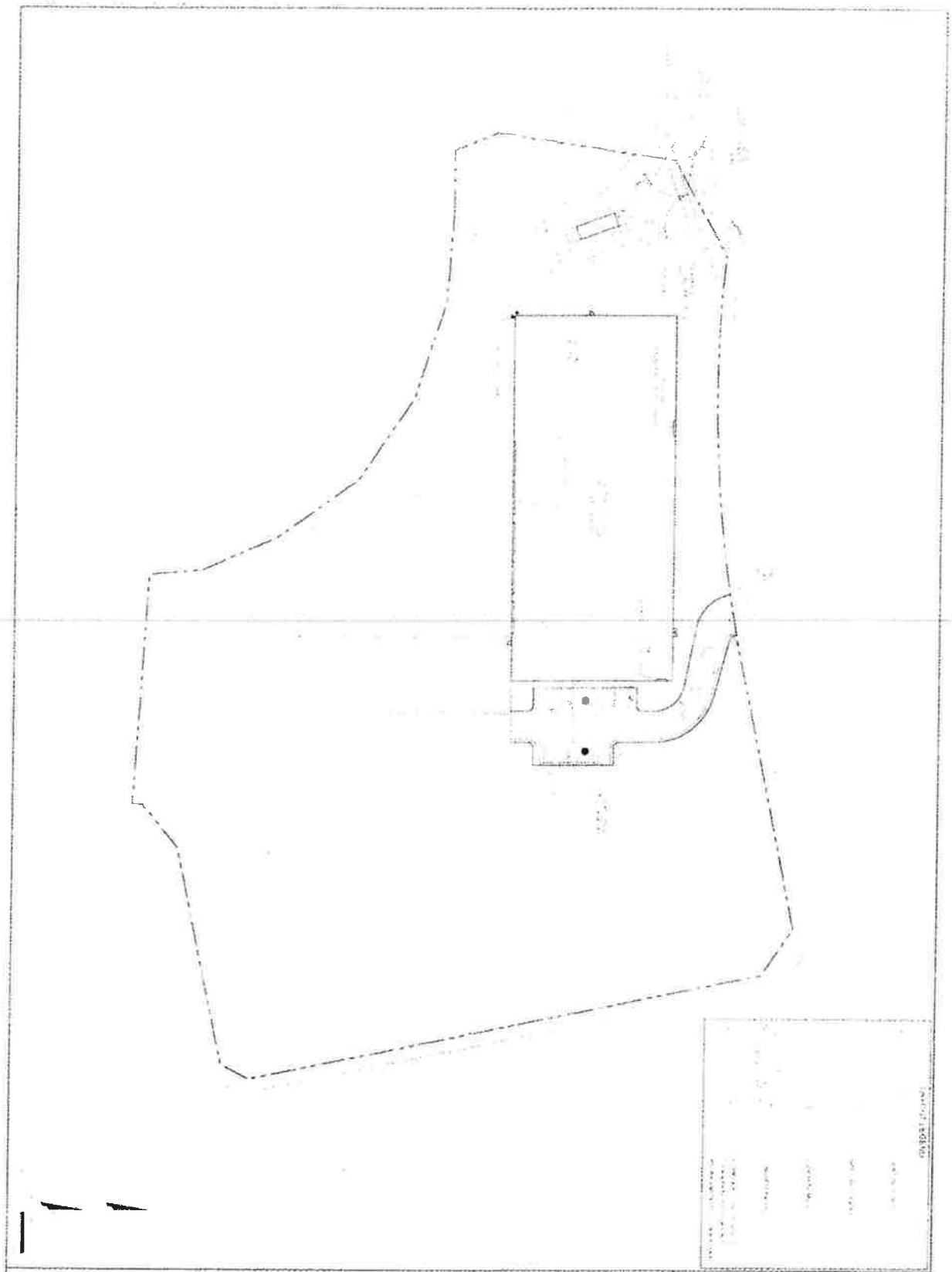


TIMMONS GROUP

Site Development Residential Infrastructure Technology

CEPHAS INDUSTRIES MRF

EXISTING CONDITIONS PLAN



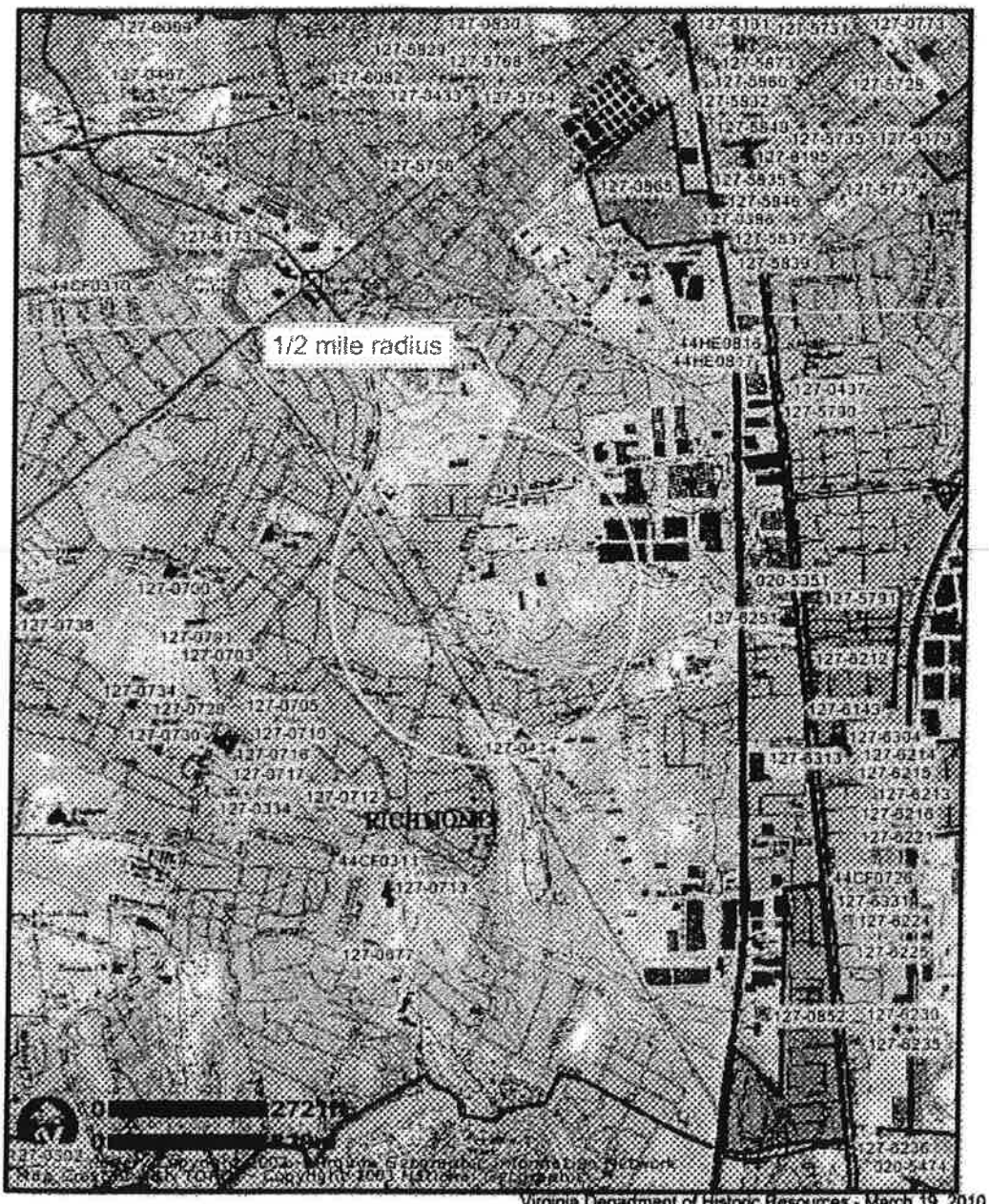
TIMMONS GROUP

Site Development · Residential · Infrastructure · Technology

CEPHAS INDUSTRIES MRF

LAYOUT PLAN

Virginia Department of Historic Resources
Data Sharing System, 03/31/2010



Virginia Department of Historic Resources - March 19, 2010
9:07 am

Cephas Property

Environmental Assessment VDHR DSS results

Virginia Department of Historic Resources
Reconnaissance Level Survey

DHR ID#: **127-0434** ***Other DHR ID#:***

Resource Information

Resource Name(s): Hickory Hill School {Historic/Current}
Date of Construction: ca 1910
Local Historic District:

Location of Resource

Commonwealth of Virginia
County/Independent City: Richmond (Ind. City)
Magisterial District:
Town/Village/Hamlet: Richmond
Tax Parcel:
Zip Code:
Address(s): Belt Boulevard {Current}
USGS Quadrangle Name:
UTM Boundary Coordinates:

NAD	Zone	Easting	Northing

UTM Center coordinates:
UTM Data Restricted?

National Register Eligibility Status

Resource has not been evaluated.*

* Resource has not been formally evaluated by DHR or eligibility information has not been documented in DSS at this time.

Resource Description

Ownership Status:
Government Agency Owner:
Acreage:
Surrounding area:
Open to Public:
Site Description:

Secondary Resource Summary:

Individual Resource Information

Count	Resource Types	Resource Status
1	School	Contributing

Individual Resource Detail Information

Resource Type:	School	*Primary Resource?*	Yes
Date of Construction:	ca 1910 {Site Visit}	*Accessed?*	No
Architectural Style:	Colonial Revival	*Number of Stories:*	1.0
Form:		*Condition:*	Good
Interior Plan Type:			
		Threats to Resource:	None

Architecture Summary: End Architecture Summary Additions and alterations: End Additions and alterations Interior Description: End Interior Description

Primary Resource Exterior Component Description:

Component	Comp Type/Form	Material	Material Treatment
other	other	Wood	other

Report generated 4/22/2010

DHR ID#: 127-0434 *Other DHR ID#:*

Roof	other	Metal	Roof - Standing Seam
Structural System	Structural System - Masonry	Brick	other
Windows	Windows - Sash, Double-Hung	Wood	Windows - 6/6
Chimneys	Chimneys - Central interior	Unknown	Chimneys - Not visible

Historic Context(s): Education

Significance Statement

National Register Eligibility Information (Intensive Level Survey):

National Register Criteria:

Period of Significance:
Level of Significance:

Graphic Media Documentation

DHR Negative #	*Photographic Media*	*Negative Repository*	*Photo Date*	*Photographer*
10996	B&W 35mm Photos		March 1991	

Bibliographic Documentation

Cultural Resource Management (CRM) Events

CRM Event # 1.
Cultural Resource Management Event: Survey:Phase I/Reconnaissance
Date of CRM Event: 20, 1992
CRM Person: David Edwards
CRM Event Notes or Comments:

Bridge Information

Cemetery Information

Ownership Information

SUMMARY
for the
PROPOSED CEPHAS INDUSTRIES
OPEN-LOOP BIOMASS MANUFACTURING FACILITY

Cephas Industries (Cephas) is proposing to construct an open-loop biomass manufacturing facility in Richmond, Virginia with funding assistance, in part, by the United States Department of Energy (DOE), through distributions to the Virginia Department of Mines Minerals and Energy (DMME). In accordance with the Code of Federal Regulations (CFR), Title 40, Parts 1500-1508 and Title 10, Part 1021, an Environmental Assessment (EA) will be prepared to evaluate the potential environmental impacts associated with construction and operation of the facility.

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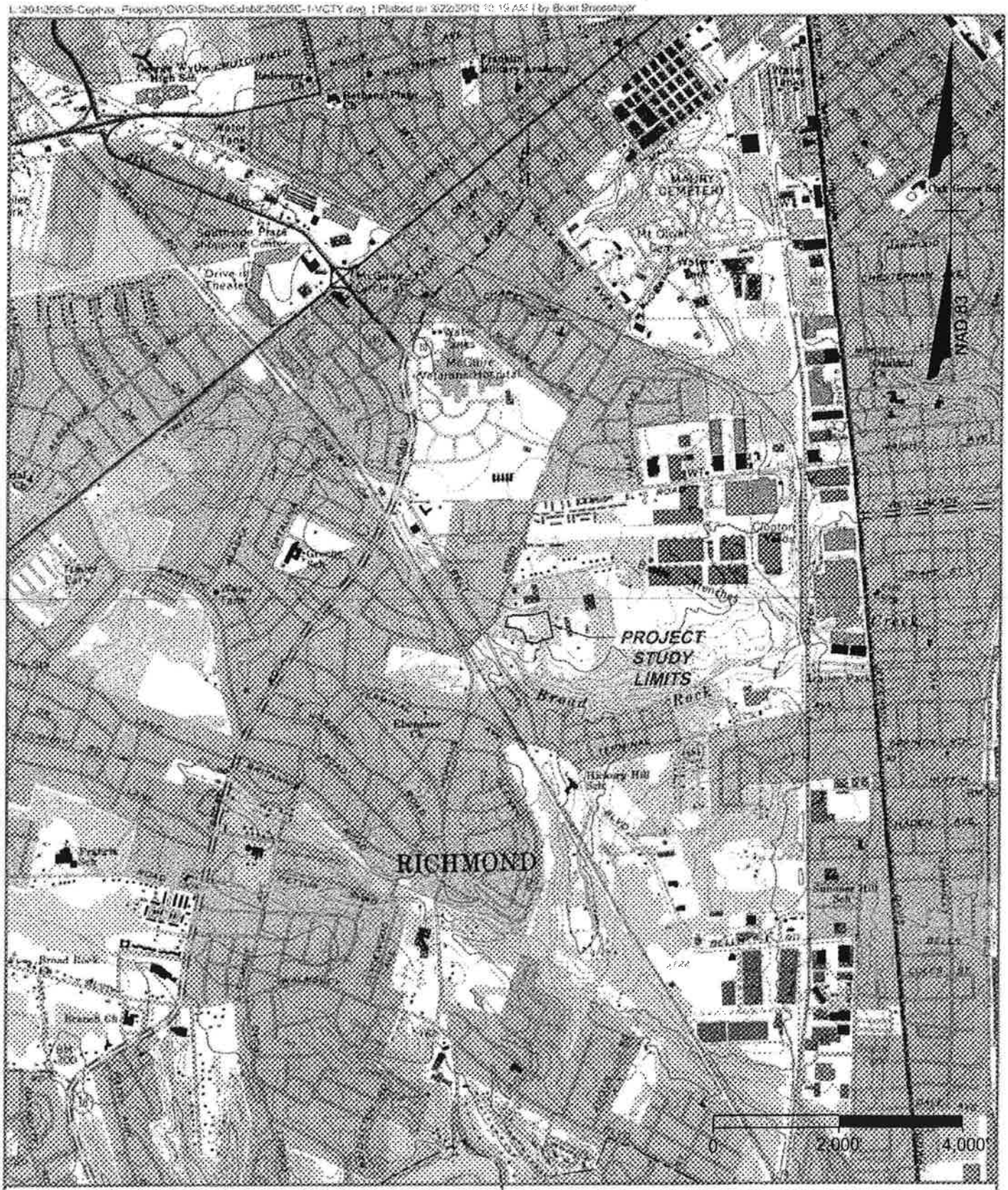
Attached:

- USGS – Vicinity Map
- Existing Conditions Plan
- Layout Plan



CEPHAS PROPERTY

CITY OF RICHMOND, VIRGINIA

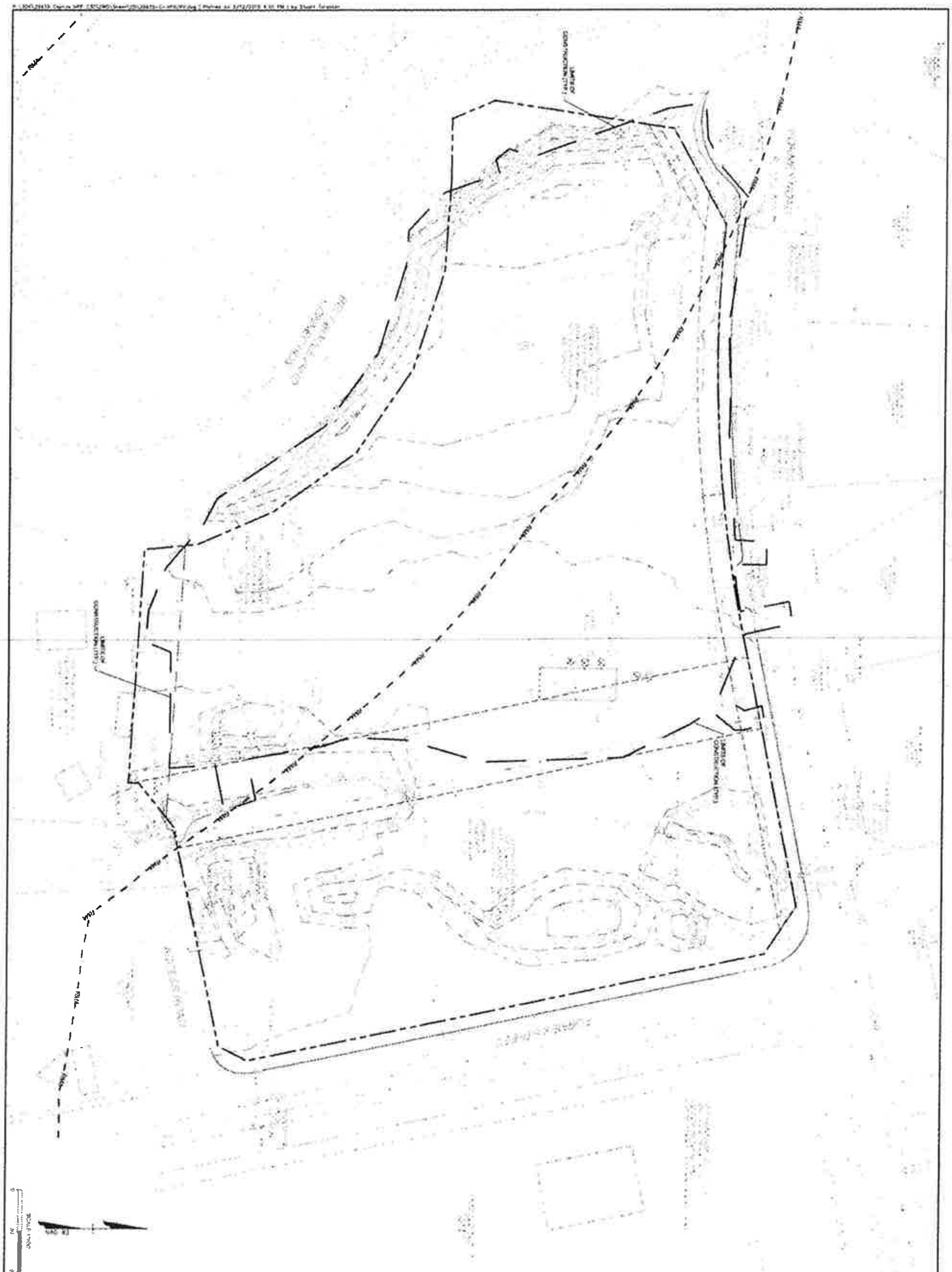
VICINITY MAP

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: 2835
PROJECT STUDY LIMITS: 5.5 ACRES
LATITUDE: 37°29'15"
LONGITUDE: 77°27'08"

U.S.G.S. QUADRANGLE(S): SHEPHERD BLUFF
DATE: 1964
WATERSHED: JAMES RIVER, LOWER (TIDAL)
HUC IDENTIFICATION: 02080108



TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS

Site Development | Residential | Infrastructure | Technology

CEPHAS INDUSTRIES MRF

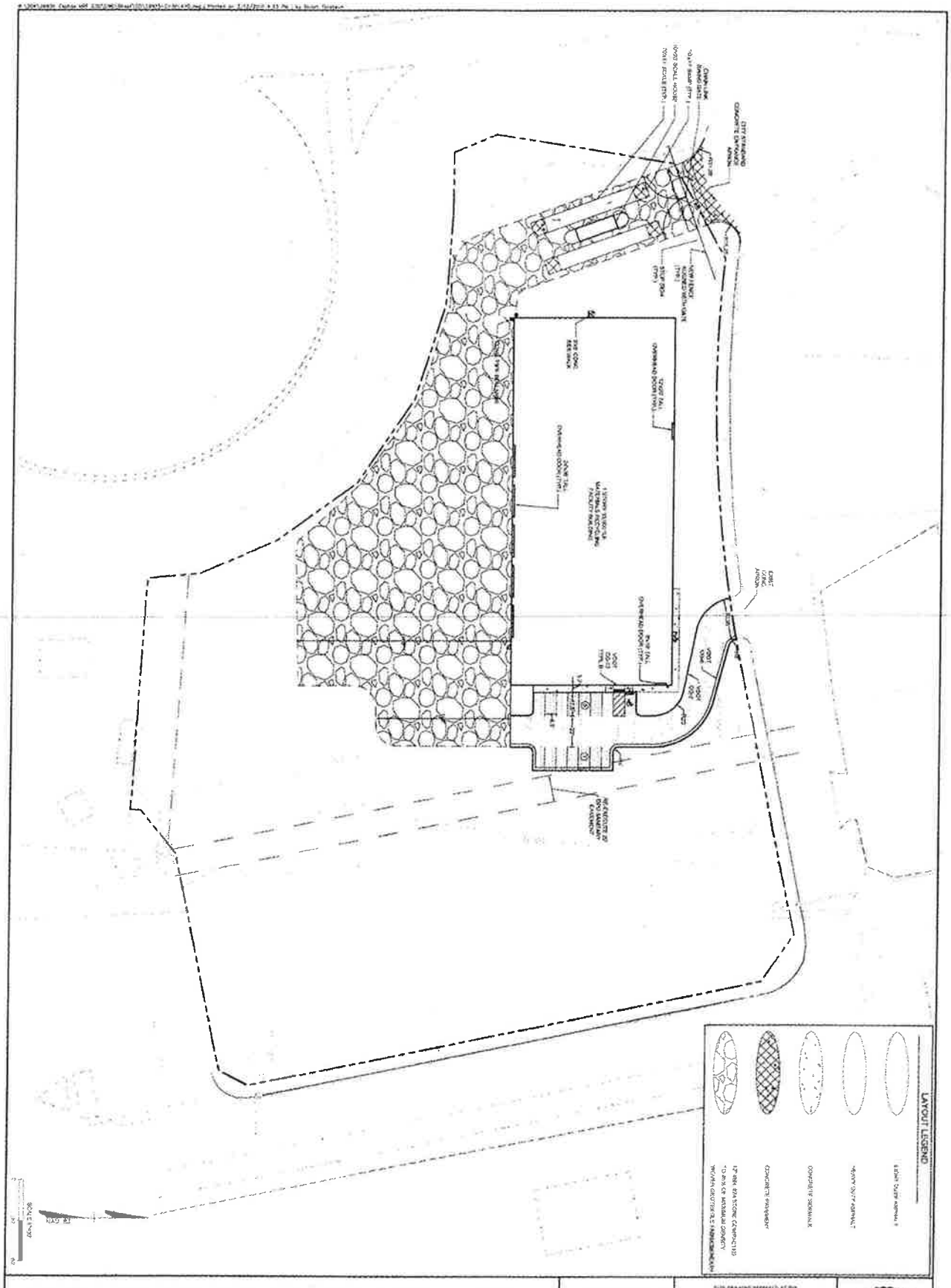
RICHMOND, VA

EXISTING CONDITIONS PLAN

29935

C1.0

DATE	REVISION DESCRIPTION



TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

Site Development | Residential | Infrastructure | Technology

CEPHAS INDUSTRIES MRF

RICHMOND, VA

LAYOUT PLAN

C3.0

25935

REVISION DESCRIPTION

APPENDIX 6

Agency Project Review Response Letters

II. DO YOU NEED TO SUBMIT A PROJECT FOR SHPO REVIEW?

State energy projects with little to no potential to affect historic properties do not require SHPO review. These projects are listed on Attachment A. Check the appropriate box if the project description fits your project. Then sign and date this form and submit it to DMME with your application to DMME.

If your project is not on the list in Attachment A, go on to complete Section III.

III. PROJECT DESCRIPTION

The *Area of potential effects (APE)* means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE varies with project types, and can be direct (Physical) or indirect (visual, audible).

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1. Attach a copy of the project map showing the Area of Potential Effects (APE). Describe the APE below.

The proposed facility will be located on approximately 5.2 acres within Broad Rock Industrial Park at 3413 Formex Road, which is located within the City of Richmond. The Area of Potential Effect for this project is within the construction footprint of the proposed facility. As the property is already in use as a collection and recycling facility, the majority of the site has already been disturbed.

2. Are any structures within the APE? YES ____ NO X____

A. Date of construction N/A___

B. Attach Photographs of front and sides of the building/structure as well as photographs of the surrounding area.
Photographs should be individually numbered, and corresponding numbers should be placed on the map or site plan, showing location and direction of view.

4. Project Narrative Description
The Cephas Open Loop Biomass Manufacturing Facility is a shovel-ready biomass project that will support the construction and demolition (C&D) and recycling industries in metropolitan Richmond, Virginia. The proposed facility will be located on approximately 5.2 acres within Broad Rock Industrial Park, which is located within the Richmond City limits south of the James River. Development of the facility will include constructing an approximately 33,000 square foot metal building from recycled materials that will house the operational equipment. The facility will have the capacity to accept and process 250-500 tons of C&D debris on a weekly basis, of which approximately 35% is expected to be converted to biomass.

5. Is your project located within an Historic District? Yes ____ No X___ Don't Know_____

If the answer is yes, is the district listed, considered eligible or locally designated? _____

Name of District _____

To the best of my knowledge, I have accurately described the proposed project and its likely impacts.

2010-0779

Requesting a Project Review from the Department of Historic Resources for State Energy Program Grants

The Department of Historic Resources is Virginia's State Historic Preservation Office, or SHPO.

Section 106 of the National Historic Preservation Act requires federal agencies, such as the Department of Energy, to consult with the SHPO and other stakeholders who may have knowledge of historic properties to identify historic properties that may be affected by a federal undertaking.

For additional information on the Section 106 process, you may access *Frequently Asked Questions* at http://www.dhr.virginia.gov/review/sect_106_faq1.htm. The web site of the Advisory Council on Historic Preservation, the federal agency that has oversight over the Section 106 process, also has further information on Section 106, such as *A Citizen's Guide to Section 106* (http://www.achp.gov/citizensguide.pdf) as well as the text of the Section 106 regulations (http://www.achp.gov/regs-rev04.pdf)

Mail the completed form to: Department of Historic Resources, 2801 Kensington Avenue, Richmond, VA 23221; fax 804-367-2391; e-mail ethel.eaton@dhr.virginia.gov. If you have any questions as you complete this form, please contact Ethel Eaton at 9804) 367-2323, ext. 112; ethel.eaton@dhr.virginia.gov

Project Review Application Form

I. GENERAL INFORMATION

1. Project Name Cephas Open Loop Biomass Facility

2. Project Address Location (Note: Do not use PO Box mailing address):

   Street Address: 3413 Formex Road, Richmond, Virginia 23224

   If rural: State Route _____, _____ miles__of _____

3. DMME Contact Person Ms. Robin Jones

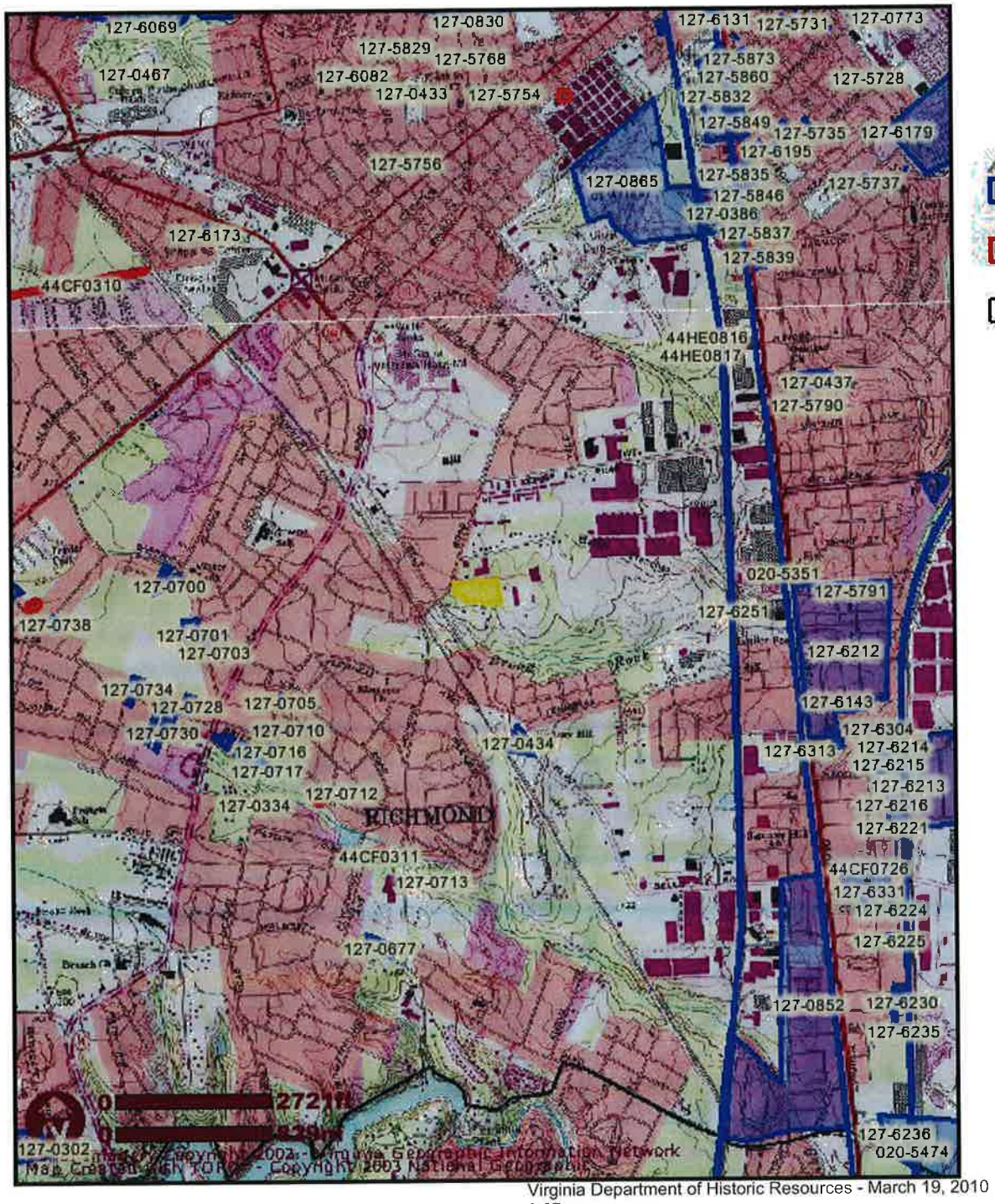
4. Project Contact Person Mr. Rick Thomas

   PHONE 804.200.6446 E-MAIL rick.thomas@timmons.com

5. Type of Project _____

6. Attach Project Map indicating the precise location of the project, preferably a clear color copy of a USGS topographic quadrangle map (7.5 minute). For projects in urban areas, please also include a city map that shows more detail. See Attached

Virginia Department of Historic Resources
Data Sharing System, 03/31/2010



Virginia Department of Historic Resources - March 19, 2010
9:07 am

Cephas Property

Environmental Assessment VDHR DSS results

Rick Thomas
Signature of Applicant/Agent

4-30-10
Date

POSSIBLE FINDINGS

No historic properties will be affected (i.e., none is present or there are historic properties present but the project will have no effect upon them). Section 106 will be considered *complete*.

The proposed undertaking will have no adverse effect on one or more historic properties located within the project APE. Section 106 will be considered *complete*.

The proposed undertaking will result in an adverse effect to one or more historic properties. Section 106 will be considered *incomplete*. The applicant must consult with the SHPO and other stakeholders on ways to reduce or mitigate the adverse effect. DOE must be provided with all project documentation and informed of the adverse effect.

DHR File No. 2010-0279

X **No historic properties affected**

____ **No adverse effect**

____ **Adverse effect**

Signature Ethel R Eaton Date 5-06-2010

This space for Department of Historic Resources Use Only

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT, CORPS OF ENGINEERS
FORT NORFOLK, 803 FRONT STREET
NORFOLK, VIRGINIA 23510-1096

June 3, 2010

REPLY TO
ATTENTION OF:

Southern Virginia Regulatory Section
NAO-2010-0675 Broad Rock Creek

Cephas Industries
c/o Morris Cephas
3413 Formex Road
Richmond, VA 23224

Dear Mr. Cephas:

This is in regard to your after-the-fact Nationwide permit application to impact approximately 0.02 acres of wetlands and 224 linear feet of stream. The project is to install 200 linear feet of 48" corrugated plastic culvert and install the required inlet and outlet protection. The work will occur at the southwest intersection of Coastal Boulevard and Formex Street in the City of Richmond, Virginia. These impacts are detailed on the enclosed drawing titled "Cephas Property, City of Richmond, Virginia, Wetlands Impact Map", prepared by Timmons Group and dated April 19, 2010.

Your proposed work as outlined above satisfies the criteria contained in the Corps Nationwide Permit 18, attached. The Corps Nationwide Permits were published in the March 12, 2007, Federal Register notice (72 FR 47) and the regulations governing their use can be found in 33 CFR 330 published in Volume 56, Number 226 of the Federal Register dated November 22, 1991.

Provided the project specific conditions (above) and the Nationwide Permit General Conditions (enclosed) are met, an individual Department of the Army Permit will not be required. In addition, the Virginia Department of Environmental Quality has provided §401 Water Quality Certification for Nationwide Permit Number 18. However, a permit may be required from the Virginia Marine Resources Commission and/or your local wetlands board, and this verification is not valid until you obtain their approval, if necessary. This authorization does not relieve your responsibility to comply with local requirements pursuant to the Chesapeake Bay Preservation Act (CBPA), nor does it supersede local government authority and responsibilities pursuant to the Act. You should contact your local government before you begin work to find out how the CBPA applies to your project.

Enclosed is a "compliance certification" form, which must be signed and returned within 30 days of completion of the project, including any required mitigation. Your signature on this form certifies that you have completed the work in accordance with the nationwide permit terms and conditions.

This verification is valid until the NWP is modified, reissued, or revoked. All of the existing NWPs are scheduled to be modified, reissued, or revoked prior to March 18, 2012. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this nationwide permit unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 CFR 330.4(e) and 33 CFR 330.5 (c) or (d). Project specific conditions listed in this letter continue to remain in effect after the NWP verification expires, unless the district engineer removes those conditions. Activities completed under the authorization of an NWP which was in effect at the time the activity was completed continue to be authorized by that NWP.

Copies of this verification have been provided to Virginia Department of Environmental Quality, Piedmont Regional Office and Timmons Group. If you have any questions, please contact Steven VanderPloeg at (804) 397-9836 or steven.a.vanderploeg@usace.army.mil).

Sincerely,

Lynette R. Rhodes

Lynette R. Rhodes
Chief, Southern Virginia Regulatory Section

U.S. Army Corps
Of Engineers
Norfolk District

CERTIFICATE OF COMPLIANCE WITH ARMY CORPS OF ENGINEERS PERMIT

Permit Number: NAO-2010-0675

Name of Permittee: Mr. Morris Cephas

Permit Type: NWP-18

Date: June 8, 2010

Within 30 days of completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

Ms. Steven A. VanderPloeg
US Army Corps of Engineers
Richmond Field Office Annex
9100 Arboretum Parkway
Suite 235
Richmond, VA 23236

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation has been completed in accordance with the permit conditions.

_____ _____

Signature of Permittee Date

Nationwide Permit (18) Minor Discharges (3/19/2007)

Minor discharges of dredged or fill material into all waters of the United States, provided the activity meets all of the following criteria:

(a) The quantity of discharged material and the volume of area excavated do not exceed 25 cubic yards below the plane of the ordinary high water mark or the high tide line;

(b) The discharge will not cause the loss of more than 1/10 acre of waters of the United States; and

(c) The discharge is not placed for the purpose of a stream diversion.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) The discharge or the volume of area excavated exceeds 10 cubic yards below the plane of the ordinary high water mark or the high tide line, or (2) the discharge is in a special aquatic site, including wetlands. (See general condition 27.) (Sections 10 and 404)

REGIONAL CONDITIONS:

1. **Waters Containing Submerged Aquatic Vegetation (SAV) Beds: Notification is required if work will occur in areas that contain submerged aquatic vegetation (SAVs). Information about SAVs can be found at the Virginia Institute of Marine Science's website http://www.vims.edu/bio/sav . Additional avoidance and minimization measures, such as relocating a structure or time of year restrictions may be required to reduce impacts to SAVs.**

2. **Designated Critical Resource Waters, which include National Estuarine Research Reserves: Notification is required for work under NWP 18 in the Chesapeake Bay National Estuarine Research Reserve in Virginia. This multi-site system along a salinity gradient of the York River includes Sweet Hall Marsh, Taskinas Creek, Catlett Island, and Goodwin Islands. More information can be found at: http://www.vims.edu/cbnerr/reservesites/index.htm .**

   Waters with federally listed endangered or threatened species, waters federally designated as Critical Habitat, and one mile upstream (including tributaries) of any such waters, notification is required for work in the areas listed below for NWP 18.

   The Counties of Lee, Russell, Scott, Tazewell, Wise, and Washington in Southwestern Virginia within the following specific waters and reaches:

   1) **Powell River - from the Tennessee-Virginia state line upstream to the Route 58 bridge in Big Stone Gap and one mile upstream of the mouth of any tributary adjacent to this portion of the River.**
   2) **Clinch River - from the Tennessee-Virginia state line upstream to Route 632 at Pisgah in Tazewell County and one mile upstream of the mouth of any tributary adjacent to this portion of the River, the Little River to its confluence with Maiden Spring Creek, and one mile upstream of the mouth of any tributary adjacent to this portion of Little River.**
   3) **North Fork Holston River - from the Tennessee-Virginia state line upstream to the Smyth County/Bland County line and one mile upstream of any tributary adjacent to this portion of the River.**
   4) **Copper Creek - from its junction with the Clinch River upstream to the Route 58 bridge at Dickensonville in Russell County and one mile upstream of any tributary adjacent to this portion of the Creek.**
   5) **Indian Creek - from its junction with the Clinch River upstream to the fourth Norfolk and Western Railroad bridge at Van Dyke in Tazewell County and one mile upstream of the mouth of any tributary adjacent to this portion of the Creek.**
   6) **Middle Fork Holston River - from the Tennessee-Virginia state line to its junction with Walker Creek in Smyth County near Marion, Virginia.**
   7) **South Fork Holston River - from its junction with Middle Fork Holston River upstream to its junction with Beech Creek in Washington County.**

This NWP requires notification to work in Lee, Russell, Scott, Smyth, Tazewell, Washington or Wise Counties. For any work in Lee, Russell, Scott, or Wise Counties, please submit the notification to the Norfolk District Corps of Engineers, Clinch Valley Field Office, PO Box 338, Abingdon, Virginia 24212. For any work in Smyth, Tazewell, or Washington Counties please submit the notification to the Norfolk District Corps of Engineers, Virginia Highlands Field Office, PO Box 1295, Abingdon, Virginia 24212-1295. Written verification from these offices would be required prior to performing the proposed work. It is recommended that the prospective permittees first contact the field offices by telephone at (276) 623-5259 (Clinch Valley) or (276) 676-4807 (Virginia Highlands) to determine if the notification procedures would apply. The notification must be in writing and include the following information (the Joint Permit Application may also be used - be sure to mark it with the letters PCN at the top of the first page):

- **Name, address, and telephone number of the prospective permittee.**
- **Location of the proposed project.**
- **Vicinity map and project drawings on 8.5-inch by 11-inch paper (plan view, profile, & cross section).**
- **Brief description of the proposed project and the project purpose.**
- **Where required by the terms of the nationwide permit, a delineation of affected special aquatic sites, including wetlands.**

When all required information is received by the appropriate field office, the Corps will notify the prospective permittee within 45 days whether the project may proceed under the nationwide permit or whether an individual permit is required. If, after reviewing the notification, the District Engineer determines that the proposed activity would have more than a minimal individual or cumulative adverse impact on the aquatic environment or otherwise may be contrary to the public interest, then he will either condition the nationwide permit authorization to reduce or eliminate the adverse impacts, or notify the prospective permittee that the activity is not authorized by the nationwide permit and provide the permittee with instructions on how to seek authorization under an individual permit.

Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed

work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

3. Designated Trout Waters: Notification is required for work in the areas listed below for NWP 18.

This condition applies to activities occurring in two categories of waters; Class V (Put and Take Trout Waters) and Class VI (Natural Trout Waters), as defined by the Virginia State Water Control Board Regulations, Water Quality Standards (VR-680 21-00), dated January 1, 1991, or the most recently updated publication. The Virginia Department of Game and Inland Fisheries (VDGIF) designated these same trout streams into six classes. Classes I-IV are considered wild trout streams. Classes V and VI are considered stockable trout streams. Information on designated trout streams can be obtained via their Virginia Fish and Wildlife Information Service's (VAFWIS's) Cold Water Stream Survey database. Basic access to the VAFWIS is available via http://vafwis.org/wis/asp/default.asp.

The waters, occurring specifically within the mountains of Virginia, are within the following river basins:

1) Potomac-Shenandoah
2) James
3) Roanoke
4) New
5) Tennessee and Big Sandy
6) Rappahannock

This condition applies to the following counties and cities: Albemarle, Allegheny, Amherst, Augusta, Bath, Bedford, Bland, Botetourt, Bristol, Buchanan, Buena Vista, Carroll, Clarke, Covington, Craig, Dickenson, Floyd, Franklin, Frederick, Giles, Grayson, Greene, Henry, Highland, Lee, Loudoun, Madison, Montgomery, Nelson, Page, Patrick, Pulaski, Rappahannock, Roanoke City, Roanoke Co., Rockbridge, Rockingham, Russell, Scott, Shenandoah, Smyth, Staunton, Tazewell, Warren, Washington, Waynesboro, Wise, and Wythe.

Any discharge of dredged and/or fill material authorized by the nationwide permits listed above, which would occur in the designated waterways or adjacent wetlands of the specified counties, requires notification to the appropriate Corps of Engineers field office, and written approval from that office prior to performing the work. We recommend that prospective permittees first contact the appropriate field office by telephone to determine if the notification procedures would apply. The notification must be in writing and include the following information (the standard Joint Permit Application may also be used):

- Name, address, and telephone number of the prospective permittee.
- Location of the proposed project.
- Vicinity map and project drawings on 8.5-inch by 11-inch paper (plan view, profile, & cross section).
- Brief description of the proposed project and the project purpose.
- Where required by the terms of the nationwide permit, a delineation of affected special aquatic sites, including wetlands.

When all required information is received by the appropriate field office, the Corps will notify the prospective permittee within 45 days whether the project can proceed under the NWP or whether an individual permit is required. If, after reviewing the notification, the District Engineer determines that the proposed activity would have more than minimal individual or cumulative adverse impacts on the aquatic environment or otherwise may be contrary to the public interest, then he will either condition the nationwide permit authorization to reduce or eliminate the adverse impacts, or notify the prospective permittee that the activity is not authorized by the nationwide permit and provide with instructions on how to seek authorization under an individual permit. If the permittee is not notified otherwise within the 45-day period the permittee may begin the activity.

4. Conditions Pertaining to Countersinking of Pipes and Culverts in Nontidal Waters: This condition applies to NWP 12.

NOTE: THE COUNTERSINKING REQUIREMENT DOES NOT APPLY IN TIDAL WATERS.

a. Following consultation with the Virginia Department of Game and Inland Fisheries (DGIF), the Norfolk District has determined that fish and other aquatic organisms are most likely present in any stream being crossed, in the absence of site-specific evidence to the contrary. Although permittees have the option of providing such evidence, extensive efforts to collect such information is not encouraged, since countersinking will in most cases be required except as outlined in the conditions below.

b. All pipes: All pipes and culverts placed in streams will be countersunk at both the inlet and outlet ends, unless indicated otherwise by the Norfolk District on a case-by-case basis (see below). Pipes that are 24" or less in diameter shall be countersunk 3" below the natural stream bottom. Pipes that are greater than 24" in diameter shall be countersunk 6" below the natural stream bottom. The countersinking requirement does not apply to bottomless pipes/culverts or pipe arches. All single pipes or culverts (with bottoms) shall be depressed (countersunk) below the natural streambed at both the inlet and outlet of the structure. In sets of multiple pipes or culverts (with bottoms) at least one pipe or culvert shall be depressed (countersunk) at both the inlet and outlet to convey low flows.

c. Exemption for extensions and certain maintenance: The requirement to countersink does not apply to extensions of existing pipes or culverts that are not countersunk, or to maintenance to pipes/culverts that does not involve replacing the pipe/culvert (such as repairing cracks, adding material to prevent/correct scour, etc.).

d. Floodplain pipes: The requirement to countersink does not apply to pipes or culverts that are being placed above ordinary high water, such as those placed to allow for floodplain flows. The placement of pipes above ordinary high water is not jurisdictional (provided no fill is discharged into wetlands).

e. Hydraulic opening: Pipes should be adequately sized to allow for the passage of ordinary high water *with the countersinking and invert restrictions taken into account.*

f. Pipes on bedrock: Different procedures will be followed for pipes or culverts to be placed on bedrock, depending on whether the work is for replacement of an existing pipe/culvert or a new pipe/culvert:

i. Replacement of an existing pipe/culvert: Countersinking is not required provided the elevations of the inlet and outlet ends of the replacement pipe/culvert are no higher above the stream bottom than those of the existing pipe/culvert. Documentation (photographic or other evidence) must be maintained in the permittee's records showing the bedrock condition and the existing inlet and outlet elevations. That documentation will be available to the Norfolk District upon request, but notification or coordination with the Norfolk District is not otherwise required.

ii. A pipe/culvert is being placed in a new location: If the prospective permittee determines that the bedrock prevents countersinking, they should evaluate the use of a bottomless pipe/culvert, bottomless utility vault, span (bridge) or other bottomless structure to cross the waterway, and also evaluate alternative locations for the new pipe/culvert that will allow for countersinking. If the prospective permittee determines that neither a bottomless structure nor an alternative location is practicable, then they must submit a Pre-Construction Notification to the Norfolk District in accordance with General Condition #27 of the Nationwide Permits. In addition to the information required by General Condition #27, the prospective permittee must provide documentation of measures evaluated to minimize disruption of the movement of aquatic life as well as documentation of the cost, engineering factors, and site conditions that prohibit countersinking the pipe/culvert. Options that must be considered include partial countersinking (such as less than 3" of countersinking, or countersinking of one end of the pipe), and constructing stone step pools, low rock weirs downstream, or other measures to provide for the movement of aquatic organisms. The PCN must also include photographs documenting site conditions. The prospective permittee may find it helpful to contact their regional fishery biologist for the Virginia Department of Game and Inland Fisheries (DGIF), for recommendations about the measures to be taken to allow for fish movements. When seeking advice from DGIF, the prospective permittee should provide the DGIF biologist with all available information such as location, flow rates, stream bottom features, description of proposed pipe(s), slopes, etc. Any recommendations from DGIF should be included in the PCN. The Norfolk District will notify the prospective permittee whether the proposed work qualifies for the nationwide permit within 45 days of receipt of a complete PCN. NOTE: Blasting of stream bottoms through the use of explosives is not acceptable as a means of providing for countersinking of pipes on bedrock.

g. Pipes on steep terrain: Pipes being placed on steep terrain (slope of 5% or greater) must be countersunk in accordance with the conditions above and will in most cases be non-reporting. It is recommended that on slopes greater than 5% the permittee install larger pipe than required for passage of ordinary high water in order to increase the likelihood that natural velocities can be maintained. There may be situations where countersinking both the inlet and outlet may result in a slope in the pipe that results in flow velocities that cause excessive scour at the outlet and/or prohibit some fish movement. This type of situation could occur on the side of a mountain where falls and drop pools occur along a stream. Should this be the case, or should the prospective permittee not want to countersink the pipe/culvert for other reasons, they must submit a Pre-Construction Notification to the Norfolk District in accordance with General Condition #27 of the Nationwide Permits. In addition to the information required by General Condition #27, the prospective permittee must provide documentation of measures evaluated to minimize disruption of the movement of aquatic life as well as documentation of the cost, engineering factors, and site conditions that prohibit countersinking the pipe/culvert. The prospective permittee should design the pipe to be placed at a slope as steep as stream characteristics allow, countersink the inlet 3-6", and implement measures to minimize any disruption of fish movement. These measures can include constructing a stone step/pool structure, preferably using river rock/native stone rather than riprap, constructing low rock weirs to create a pool or pools, or other structures to allow for fish movements in both directions. Stone structures should be designed with sufficient-sized stone to prevent erosion or washout and should include keying-in as appropriate. These structures should be designed both to allow for fish passage and to minimize scour at the outlet. The quantities of fill discharged below ordinary high water necessary to comply with these requirements (i.e., the cubic yards of stone, riprap or other fill placed below the plane of ordinary high water) must be included in project totals. The prospective permittee may find it helpful to contact their regional fishery biologist for the Virginia Department of Game and Inland Fisheries (DGIF), for recommendations about the measures to be taken to allow for fish movements. When seeking advice from DGIF, the prospective permittee should provide the DGIF biologist with all available information such as location, flow rates, stream bottom features, description of proposed pipe(s), slopes, etc. Any recommendations from DGIF should be included in the PCN. The Norfolk District will notify the prospective permittee whether the proposed work qualifies for the nationwide permit within 45 days of receipt of a complete PCN.

h. Problems encountered during construction: When a pipe/culvert is being replaced, and the design calls for countersinking at both ends of the pipe/culvert, and during construction it is found that the streambed/banks are on bedrock, then the permittee must stop work and contact the Norfolk District (contact by telephone and/or email is acceptable). The permittee must provide the Norfolk District with specific information concerning site conditions and limitations on countersinking. The Norfolk District will work with the permittee to determine an acceptable plan, taking into consideration the information provided by the permittee, but the permittee should recognize that the Norfolk District could determine that the work will not qualify for a nationwide permit.

i. Emergency pipe replacements: In the case of an emergency situation, such as when a pipe/culvert washes out during a flood, a permittee is encouraged to countersink the replacement pipe at the time of replacement, in accordance with the conditions above. However, if conditions or timeframes do not allow for countersinking, then the pipe can be replaced as it was before the washout, but the permittee will have to come back and replace the pipe/culvert and countersink it in accordance with the guidance above. In other words, the replacement of the washed out pipe is viewed as a temporary repair, and a countersunk replacement should be made at the earliest possible date. The Norfolk District must be notified of all pipes/culverts that are replaced without countersinking at the time that it occurs, even if it is an otherwise non-reporting activity, and must provide the permittee's planned schedule for installing a countersunk replacement (it is acceptable to submit such notification by email). The permittee should anticipate whether bedrock or steep terrain will limit countersinking, and if so, should follow the procedures outlined in (f) and/or (g) above.

GENERAL CONDITIONS:

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP.

1. Navigation.
   (a) No activity may cause more than a minimal adverse effect on navigation.
   (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
   (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.
3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.
5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.
6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.
9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).
10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.
11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.
12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.
13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.
14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.
15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).
16. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.
17. Endangered Species.
   (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.
   (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.
   (c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.
   (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.
   (e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.html respectively.
18. Historic Properties.
   (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.
   (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.
   (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined

to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

19. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

21. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

22. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

24. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)

(Date)

26. Compliance Certification. Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;

(b) A statement that any required mitigation was completed in accordance with the permit conditions; and

(c) The signature of the permittee certifying the completion of the work and mitigation.

27. Pre-Construction Notification.

(a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity:

(1) Until notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) If 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination:

(1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) District Engineer's Decision: In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

D. Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

Section 401 Water Quality Certification (4/20/07):

The State Water Control Board has provided conditional §401 Water Quality Certification for the following Nationwide Permits, as meeting the requirements of the Virginia Water Protection Permit Regulation, which serves as the Commonwealth's §401 Water Quality Certification provided that any compensatory mitigation meets the requirements in the Code of Virginia, Section 62.1-44.15:5.E and as detailed below:

NWP 18: Minor Discharges, provided that the discharge does not include water withdrawals, such as the construction of an intake structure, weir or water diversion structure.

The Commonwealth requests that all pre-construction notifications for any activities that fall into the excepted category be forwarded to the Department of Environmental Quality in order to accomplish their goal of individual review of certain activities.

Coastal Zone Management Consistency Determination (5/7/07):

The Commonwealth of Virginia's Department of Environmental Quality (DEQ) has determined that the 2007 Nationwide Permits are consistent with the Virginia Coastal Resources Management Program, provided that the Corps and NWP holders comply with all applicable requirements and with the recommendations found in their letter of May 7, 2007. The applicable requirements include, but are not limited to, the following:

- The Section 401 (Clean Water Act) certification provided by DEQ's Division of Water Quality, Office of Wetlands and Water Protection on behalf of the State Water Control Board on April 20, 2007. (Excludes NWPs 16 and 17)
- The permitting requirements for encroachments on subaqueous lands and tidal wetlands administered by the Marine Resources Commission pursuant to *Virginia Code* sections 28.2-1200 et seq. and 28.2-1300 et seq.
- The land use and development performance criteria in the Chesapeake Bay Designation and Management Regulations (9 VAC 10-20-110 through 150) administered by the Department of Conservation and Recreation's Division of Chesapeake Bay Local Assistance pursuant to the Chesapeake Bay Preservation Act (*Virginia Code* sections 10.2-2100 et seq.).

APPENDIX 7

Timmons Group Wetland Delineation Data

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.

April 20, 2010

U.S. Army Corps of Engineers- Norfolk District
Richmond Field Office
9100 Arboretum Parkway Suite 235
Richmond, Virginia 23236
Attn: Mr. Steven VanderPloeg

Re: After the Fact Permit Application
For Nationwide Permit 18
Cephas Material Recycling Facility
City of Richmond, Virginia

Applicant: Cephas Industries
3413 Formex Road
Richmond, VA 23224
Attn: Morris Cephas

Dear Mr. VanderPloeg,

On behalf of Cephas Industries (Applicant), Timmons Group is submitting this after the fact, Nationwide Permit 18 application for the unauthorized placement of a pipe and fill within a stream channel and adjacent floodplain wetlands. On April 1, 2010 an onsite meeting was held with the Virginia Department of Environmental Quality and the U.S. Army Corps of Engineers to discuss what would be required to bring this project into compliance with both federal and state regulations. Based on the direction received at this meeting, it was determined that the project would have qualified for authorization under the terms and conditions of Nationwide Permit (NWP) 18.

The 5.5 acre site is located southwest of the intersection of Coastal Boulevard and Formex Street in the City of Richmond, Virginia (see enclosed Vicinity Map). The site is generally bound by commercial/industrial activities to the north, south and east. The Hopkins Road interchange at Belt Boulevard borders the site to the west. The site is drained by an unnamed tributary of Broad Rock Creek (see enclosed Environmental Inventory Map) and is located within the Lower James watershed, National Watershed Boundary (NWBD) # JL01.

In March of 2009, Timmons Group was contracted to perform a preliminary wetland assessment and perennial flow determination on the subject property. The results of that investigation are included on the attached Preliminary Environmental Constraints Map. Waters of the U.S. within the proposed project study limits have been GPS located except where indicated as approximate (see enclosed Wetland Impacts Map).

The total area of realized impacts associated with this project included 224 linear feet (L.F.) or 560 square feet of stream channel and 986 square feet of palustrine emergent wetlands, totaling 0.04 acre of impacts to waters of the U.S. (see enclosed Wetland Impacts Map). Impacts include the placement of 200 linear feet of 48" corrugated plastic pipe and fill dirt within the stream channel and adjacent wetlands. As requested at the onsite meeting, inlet and

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Site Development | Residential | Infrastructure | Technology
www.timmons.com

outlet protection have been added and included as part of the total impact area. Inlet and outlet protection has been added as specified by VDOT Road and Bridge Standards. VODT Road and Bridge Standards call for an apron length of 12 feet at a minimum depth of 18 inches. Class A1 dry riprap will be used for this installation. The outfall from the 12" corrugated plastic pipe draining the trailer will not require outfall protection as the project design plan specifies for the removal of this pipe. During the site meeting the plane of the ordinary high water mark within the stream channel was determined to be approximately 1 foot high. Based on this depth, the quantity of discharged material is totaled at 20.74 cubic yards of fill.

Based on the above information and attached supporting documentation that the project has neither caused the loss of more than 1/10 acre of waters of the U.S. and the volume of discharged material has not exceeded 25 cubic yards, the applicant requests approval under the requirements of NWP 18 to bring this project into compliance. Please review the enclosed material and contact either Brian Breissinger at 200-6439 or Kyle Springs at 200-6473 if you have any questions or require further information. Thank you for your attention to this project.

Sincerely,
Timmons Group

Brian
Environmental Scientist

Kyle Springs, WPIT
Environmental Project Manager

Enclosures:

1. Vicinity Map (1"=2,000')
2. Environmental Inventory Map
3. Preliminary Environmental Constraints Map
4. Wetland Impacts Map

CC: Stuart Toraason, Timmons Group
Roger Harris, Department of Environmental Quality

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

March 9, 2010

Ms. Lynette Rhodes
U.S. Army Corps of Engineers-Norfolk District
Richmond Field Office
9100 Arboretum Parkway, Suite 235
Richmond, VA 23236

Re: Cephas Material Recycling Facility
After-The-Fact Permit Meeting Request
City of Richmond, Virginia

Dear Ms. Rhodes,

On behalf of the Cephas Material Recycling Facility, Timmons Group is requesting an on-site meeting to discuss unauthorized impacts associated with the project. Unauthorized impacts include the placement of a pipe within a stream channel and adjacent floodplain wetlands. In March of 2009, Timmons Group was contracted to perform a preliminary wetland assessment and perennial flow determination on the subject property. This site visit was the result of the early planning stages of a feasibility study to expand the existing facility. The results of that investigation are included on the attached Preliminary Environmental Constraints Map. Wetlands located on this map are approximate in size and location and have not been confirmed by the U.S. Army Corps of Engineers.

As the planning stages of the project evolved, a second site visit was scheduled to delineate and confirm the wetland boundary in February 2010. During this site visit it was discovered that a pipe had been place in the stream channel without prior authorization. Our client was aware of the presence of these features; however they were not aware that a permit would be required from the U.S. Army Corps of Engineers to impact these features. The client has requested Timmons Group contact they Virginia Department of Environmental Quality and the U.S. Army Corps of Engineers on their behalf to bring this project into compliance.

We would like to request an on-site meeting with the U.S. Army Corps of Engineers and the Virginia Department of Environmental Quality to discuss an after-the-fact permit to ensure the project is compliant with both federal and state regulations. A copy of this letter has been furnished to Roger Harris with the Virginia Department of Environmental Quality Piedmont Regional Office.

Please review the enclosed material and contact Brian Breissinger at (804) 200-6439 or Kyle Springs at (804) 200-6473 in order to establish an on-site meeting. Thank you for your attention to this matter.

1001 Boulders Parkway, Suite 300 | Richmond, Virginia 23225
TEL 804.200.6500 FAX 804.560.1016
www.timmons.com

Sincerely,
Timmons Group

Brian Breissinger
Environmental Scientist

Kyle Springs, PWS
Environmental Project Manager

Enclosures
1. Preliminary Environmental Constraints Map

Cc: Stuart Toraason, Timmons Group
Morris Cephas, Cephas Material Recycling Facility
Roger Harris, Virginia Department of Environmental Quality

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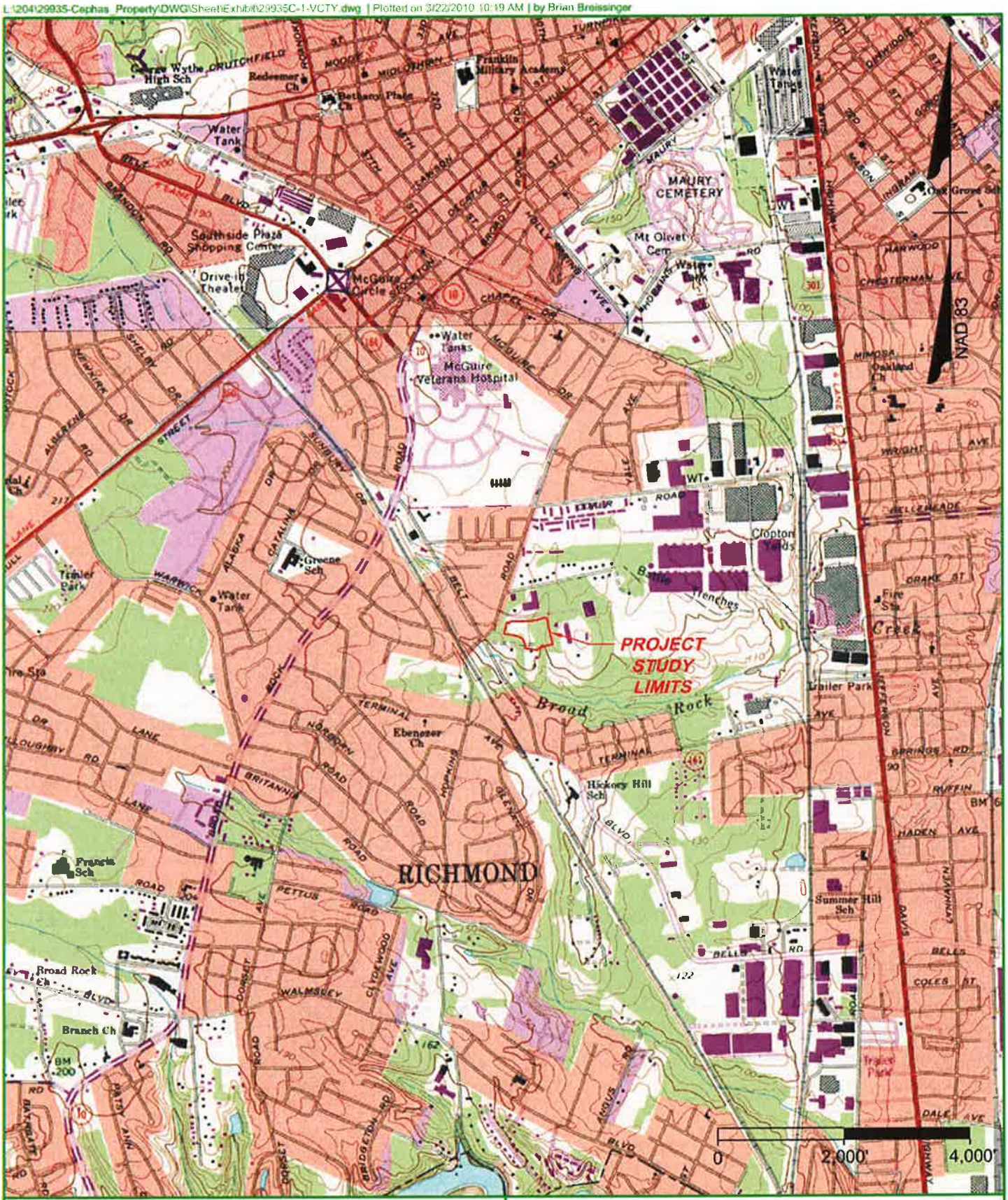


CEPHAS PROPERTY

CITY OF RICHMOND, VIRGINIA

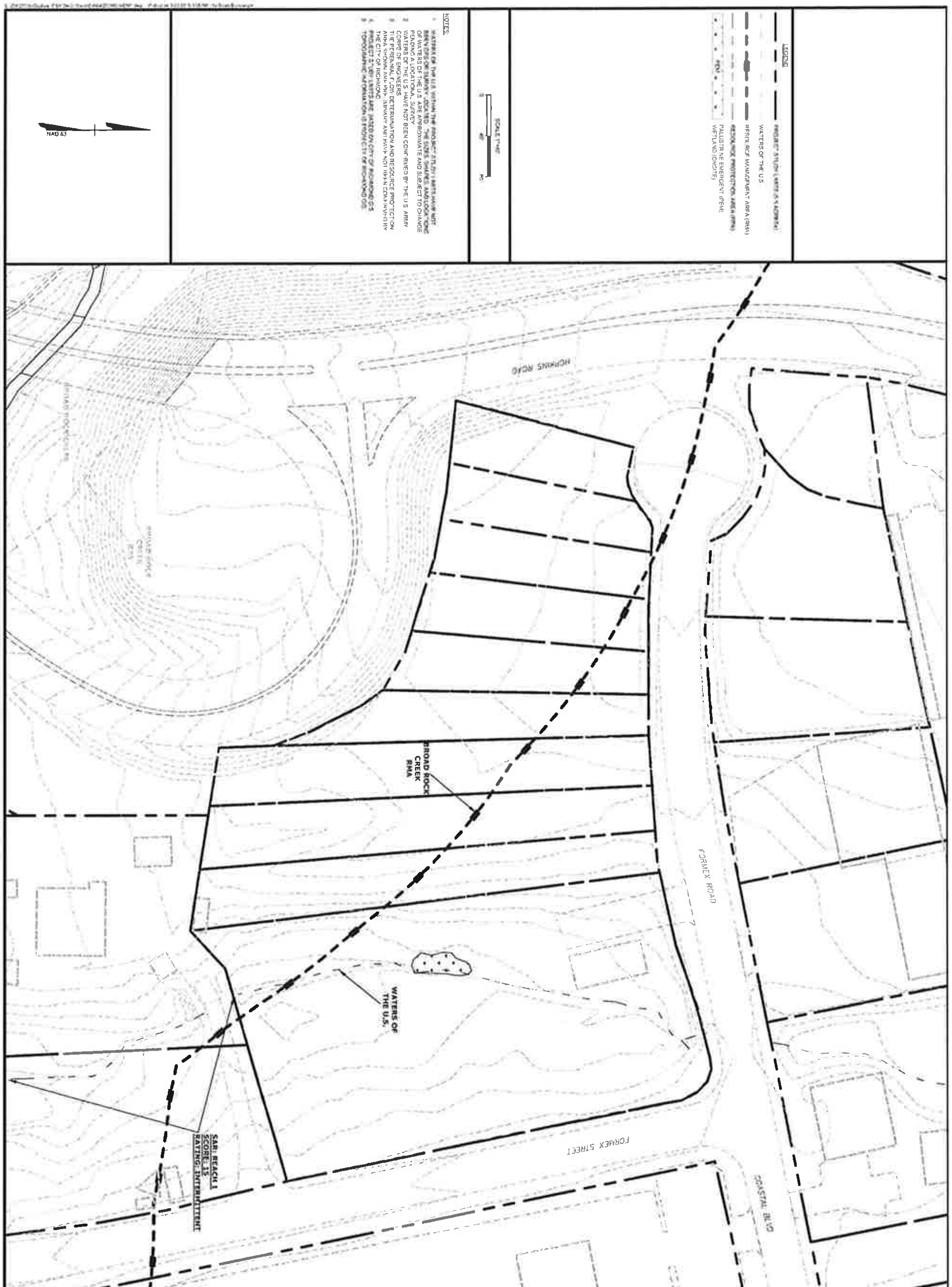
VICINITY MAP

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: *29935*
PROJECT STUDY LIMITS: *5.5 ACRES*
LATITUDE: *37°29'12"*
LONGITUDE: *77°27'48"*

U.S.G.S. QUADRANGLE(S): *DREWRYS BLUFF*
DATE: *1994*
WATERSHED: *JAMES RIVER, LOWER (TIDAL)*
HUC IDENTIFICATION: *MVBD JL01*



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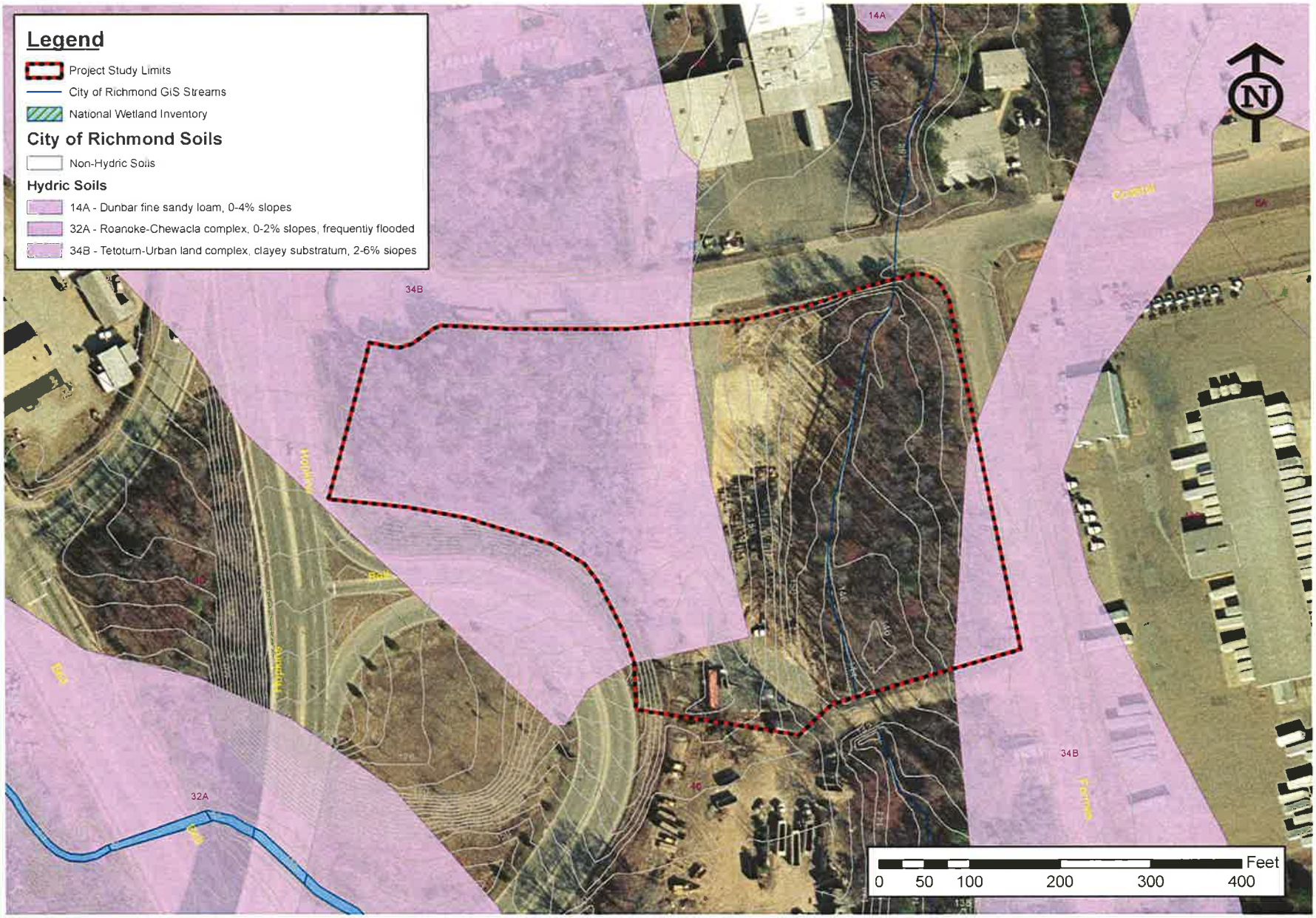
CEPHAS RECYCLING CENTER

CITY OF RICHMOND, VIRGINIA

PRELIMINARY ENVIRONMENTAL CONSTRAINTS MAP

JOB NO.	SCALE	CHECKED BY	DESIGNED BY	DRAWN BY	DATE
27399	1"=40'	K.S.		A.B.	3/27/09

DATE	REVISION DESCRIPTION



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SOILS INFORMATION FROM USDA/NRCS
PLANIMETRIC DATA FROM TIMMONS GROUP & VGIN IMAGERY DATED 2002

DATE 4/15/10

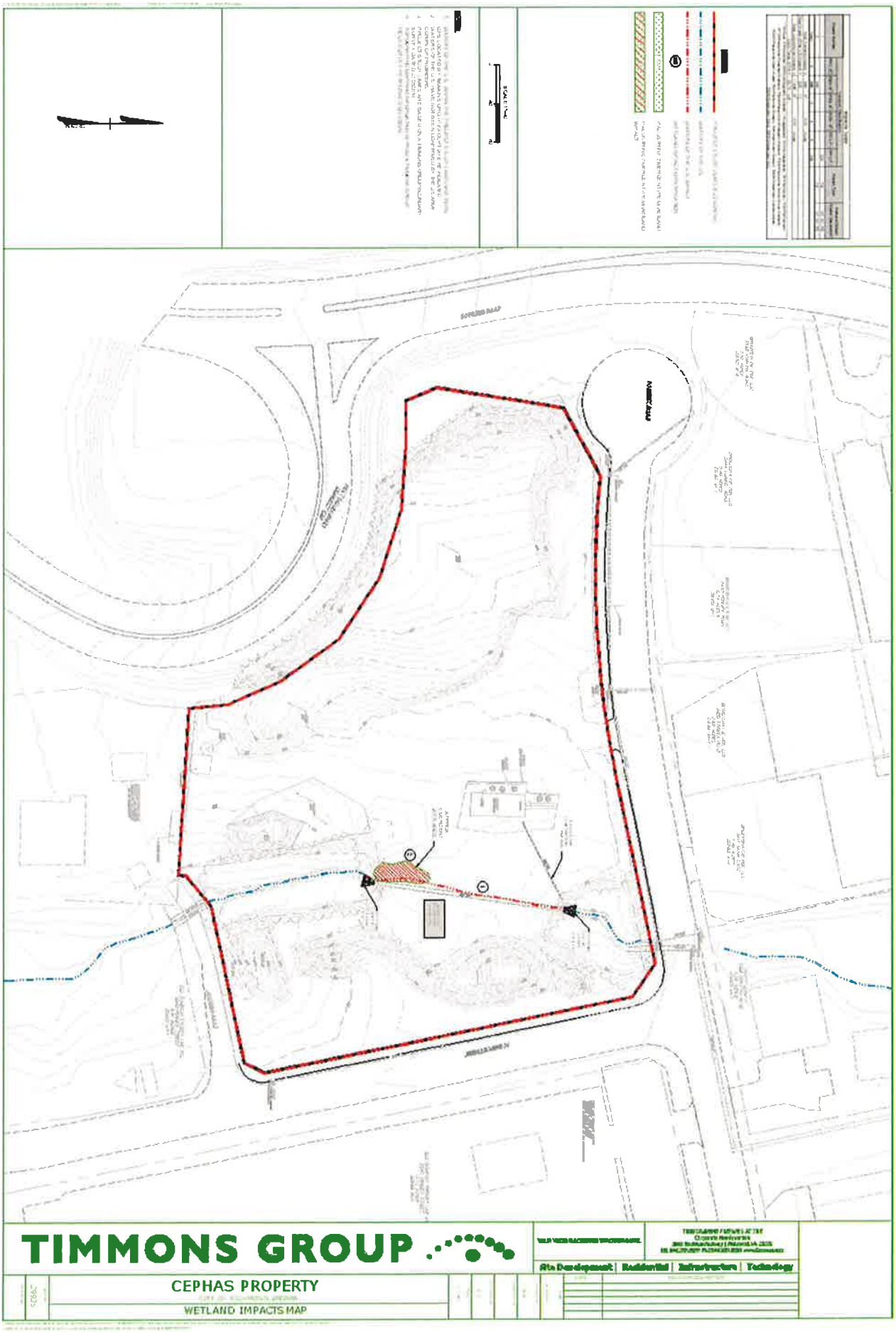
DRAWN BY B.B.

SCALE 1" = 100'

CEPHAS PROPERTY
CITY OF RICHMOND, VIRGINIA

ENVIRONMENTAL INVENTORY MAP

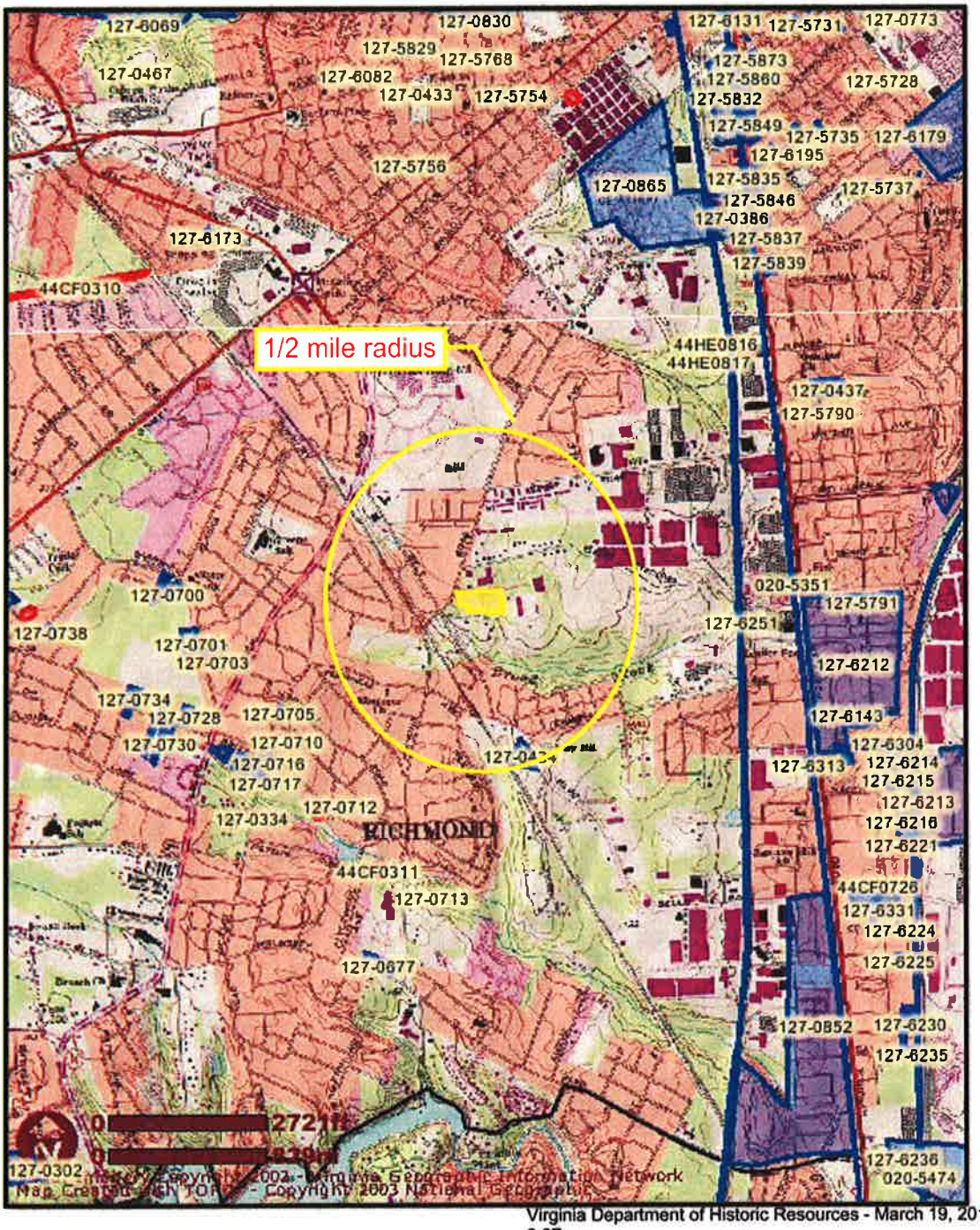
JOB NO. 29935


TIMMONS GROUP
CEPHAS PROPERTY
WETLAND IMPACTS MAP

APPENDIX 8

DHR DSS Search Results

Virginia Department of Historic Resources Data Sharing System, 03/31/2010



LEGEND
- Architecture Labels
- Archaeology Labels
- Interstates
- Architecture (polygon)
- Archaeology (polygon)
- County Boundary
- 24k TOPO
- 100k TOPO

Virginia Department of Historic Resources - March 19, 2010
9:07 am

Cephas Property

Environmental Assessment VDHR DSS results

Virginia Department of Historic Resources
Reconnaissance Level Survey

DHR ID#: **127-0434** ***Other DHR ID#:***

Resource Information

Resource Name(s): Hickory Hill School {Historic/Current}
Date of Construction: ca 1910

Local Historic District :

National Register Eligibility Status

Resource has not been evaluated.*

* Resource has not been formally evaluated by DHR or eligibility information has not been documented in DSS at this time.

Location of Resource

Commonwealth of Virginia
County/Independent City: Richmond (Ind. City)
Magisterial District:
Town/Village/Hamlet: Richmond
Tax Parcel:
Zip Code:
Address(s): Belt Boulevard {Current}
USGS Quadrangle Name:
UTM Boundary Coordinates :

NAD	Zone	Easting	Northing

UTM Center coordinates :
UTM Data Restricted?.

Resource Description

Ownership Status:
Government Agency Owner:
Acreage:
Surrounding area:
Open to Public:
Site Description:

Secondary Resource Summary:

Individual Resource Information

Count	Resource Types	Resource Status
1	School	Contributing

Individual Resource Detail Information

Resource Type.	School	*Primary Resource?*	Yes
Date of Construction:	ca 1910 {Site Visit}	*Accessed?*	No
Architectural Style:	Colonial Revival	*Number of Stories:*	1.0
Form:		*Condition:*	Good
Interior Plan Type:			
		Threats to Resource:	None

Architecture Summary: End Architecture Summary Additions and alterations: End Additions and alterations Interior Description: End Interior Description

Primary Resource Exterior Component Description:

Component	Comp Type/Form	Material	Material Treatment
other	other	Wood	other

Report generated 4/22/2010

Roof	other	Metal	Roof - Standing Seam
Structural System	Structural System - Masonry	Brick	other
Windows	Windows - Sash, Double-Hung	Wood	Windows - 6/6
Chimneys	Chimneys - Central interior	Unknown	Chimneys - Not visible

Historic Context(s): Education

Significance Statement

National Register Eligibility Information (Intensive Level Survey):

National Register Criteria:

Period of Significance:
Level of Significance:

Graphic Media Documentation

DHR Negative #	*Photographic Media*	*Negative Repository*	*Photo Date*	*Photographer*
10996	B&W 35mm Photos		March 1991	

Bibliographic Documentation

Cultural Resource Management (CRM) Events

CRM Event # 1,
Cultural Resource Management Event: Survey:Phase I/Reconnaissance
Date of CRM Event: 20, 1992
CRM Person: David Edwards
CRM Event Notes or Comments:

Bridge Information

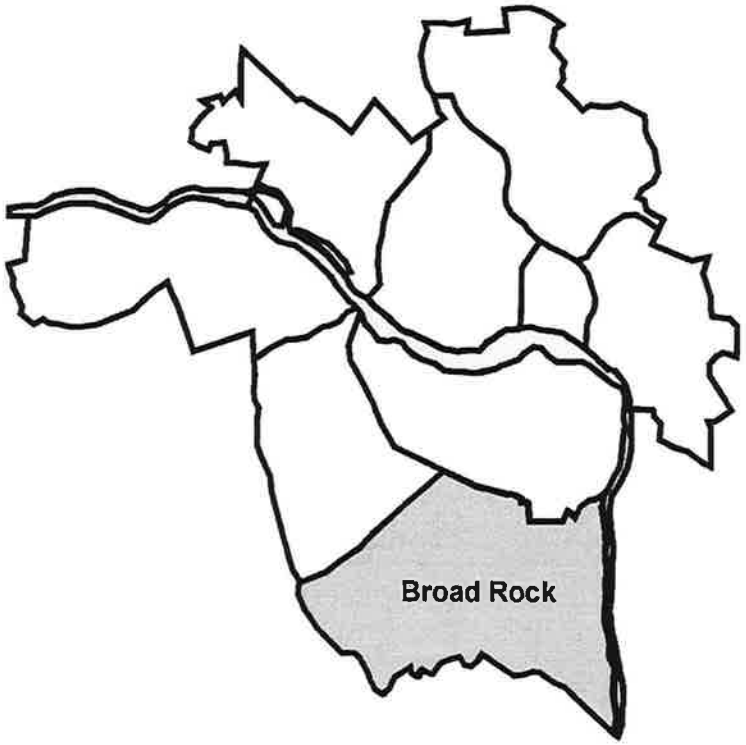
Cemetery Information

Ownership Information

APPENDIX 9

The City of Richmond 2000-2010 Master Plan – Broad Rock Planning District

CHAPTER 11
THE DISTRICT PLANS



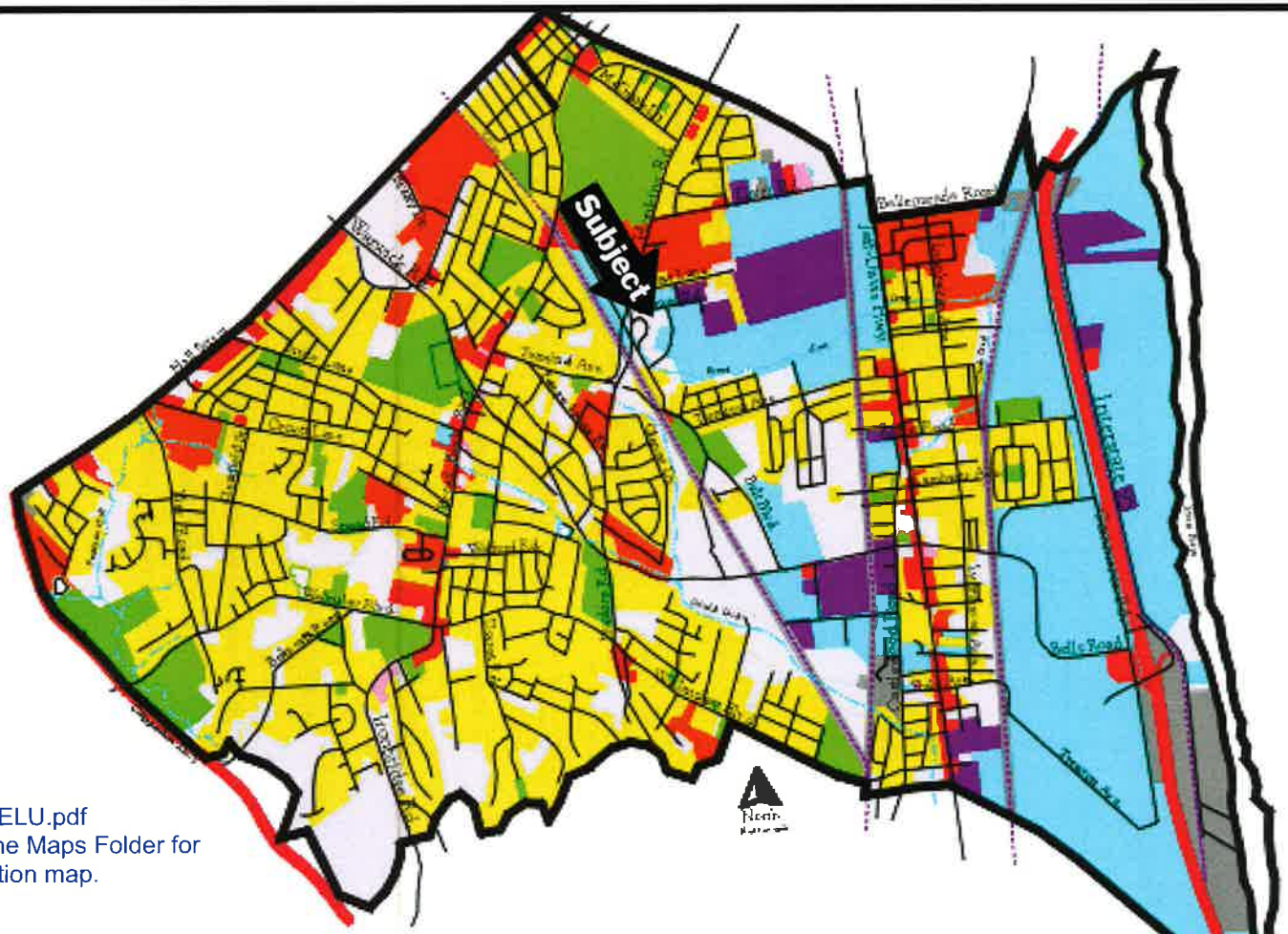
BROAD ROCK PLANNING DISTRICT

Land Use Patterns and Development Trends

General Description

The Broad Rock Planning District is bounded by Hull Street on the west, the James River to the east, the City limits to the south and the CSX rail line and Bellemeade Road to the north. The District serves as a gateway into Richmond from Chesterfield County on Hull Street, Jefferson Davis Highway (U.S. Route 1), and Interstate 95 (I-95).

Originally a part of both Chesterfield and Henrico Counties, the Broad Rock Planning District once consisted primarily of small farms and a network of villages such as Hickory Hill and Little Rock. Development patterns within the District have always been strongly influenced by the presence of major transportation routes. Access to rail lines, the James River, and Jefferson Davis Highway attracted manufacturing to the area in the 1920s, which in turn spurred residential growth to house the workers of the industrial facilities. Although much of the District is now residential, it still contains one of the largest areas of industrial land in the City.



NOTE:
Open map BR ELU.pdf
file located in the Maps Folder for
a higher resolution map.

- Single-Family Residential
- Multi-Family Residential
- Vacant Land
- Public
- Institutional/Semi-public
- Trans. / Utilities
- Office
- Commercial
- Light Industrial
- Industrial

Broad Rock Planning District

Existing Land Use

Currently the District consists of two distinctly different areas, separated by the CSX rail line which runs parallel to Jefferson Davis Highway. The eastern section of the District, annexed from Chesterfield County in 1942, remains predominately industrial, with most industrial properties concentrated along the I-95 corridor near the James River. A significant amount of residential development can also be found within this area, interspersed with industrial and commercial uses on either side of Jefferson Davis Highway. In many cases, this mixture has led to an incompatible combination of residential and non-residential uses. The area west of the CSX rail line was annexed from Chesterfield County in 1970 and is primarily residential in nature, with several large tracts of vacant land. This area provides one of the City's few opportunities for new development and growth.

The Broad Rock District is bounded and intersected by a number of the City's major highways. Residential development in the District's western portion has followed a pattern of infill development between these major thoroughfares (including Chippenham Parkway, Hull Street, Broad Rock Boulevard, and Hopkins Road). These corridors are also lined with a mixture of office, commercial, institutional, single and multi-family uses.
Housing in the District is generally in sound condition, although distinct differences in neighborhoods are evident between the eastern and western portions of the District. The eastern portion contains an older housing stock that, in many cases, is beginning to show signs of neglect and aging. A substantial percentage of the housing units in this area are rental, which may in part explain the apparent lack of property maintenance. In the western section of the District, residential development did not begin on a large scale until after World War II. Until the 1960s, most of the development was in scattered single family subdivisions, typical of developing suburbs. Due to higher rates of homeownership and the newer housing stock, property maintenance in this part of the District is less problematic.

Beginning in the late 1960s, many apartment complexes were built on large tracts of available land interspersed throughout the Broad Rock District. These complexes are generally located in clusters adjacent to major thoroughfares, such as Hopkins Road, Warwick Road, Broad Rock Boulevard, and Hull Street.

Despite the presence of numerous multi-family residential developments, most of the housing in the District still consists of single family structures on suburban-style lots. Several newer subdivisions have been developed in the area within the last twenty years, many of which contain sidewalks, curbs, and street lighting. The

neighborhoods throughout the Broad Rock District have a distinctly suburban feel due to the development pattern and the relatively large amounts of vacant, undeveloped land.

Commercial development in the Broad Rock District has occurred along the District's major corridors (Hull Street, Broad Rock Boulevard, and Jefferson Davis Highway). Much of this has been strip commercial development, often with marginalized, unappealing businesses. This is especially apparent along Jefferson Davis Highway, a corridor that has seen significant physical and economic decline over the last 20 years.

Commercial activities along Jefferson Davis Highway originally developed to serve the needs of the interstate traveler on U.S. Route 1, prior to the development of the interstate highway system. As a result many of the uses are oriented towards the traveler rather than the surrounding neighborhoods. Most of the uses, particularly on the east side of the street, are located on very shallow lots and abut single family residential neighborhoods. Additionally, a few large retail centers along the corridor have been left vacant or overtaken by industrial uses resulting from business shifts to the suburbs.

Along much of the length of the Broad Rock Boulevard corridor can be found a variety of commercial, office, and multi-family uses. This pattern of development continues south along Ironbridge Road with some newer office developments.

The largest concentration of commercial services can be found at the intersection of Broad Rock Boulevard and Walmsley Road, which contains the only large grocery store in the District.

A number of parks and recreational facilities are located in the Broad Rock District. Pocosham Park is a naturally wooded, passive park on Walmsley Boulevard west of Hey Road. The park features an extensive system of walking and jogging trails. The Broad Rock Sports Complex occupies a large parcel of land near the intersection of Broad Rock Boulevard and Warwick Road. The District also contains three community centers: Thomas B. Smith Community Center near Davee Gardens; Broad Rock Community Center at Broad Rock Elementary School; and the new Hickory Hill Community Center on Belt Boulevard.

The largest institutional use in the Broad Rock District is the Veterans Administration McGuire Hospital at Broad Rock and Belt Boulevards. This regional hospital located on a 160-acre campus is among the largest employers in south Richmond.

The Broad Rock District is also unique in that it contains a significant amount of vacant and developable land. These vacant lands exist within residential areas in areas, adjacent to rail lines and within industrial areas. Several major industrial landowners also occupy sites large enough to accommodate substantial expansion.

Redevelopment Areas

Although there currently are no redevelopment areas within the Broad Rock District, there are a number of areas that could benefit from such a designation. An inappropriate combination of industrial and residential land uses exists along Jefferson Davis Highway west to the CSX rail line. A redevelopment area designation could be a

useful tool to assemble parcels and create development opportunities. Designating land on Bellemeade Road between Jefferson Davis Highway and the CSX rail line as a redevelopment area may also be the most appropriate way to develop this large parcel as an economic Opportunity Area, as shown on the Land Use Plan map.

Changes in Land Use Since 1983

The most significant land use changes in the Broad Rock District since the adoption of the 1983 Master Plan has been the addition of residential land, resulting primarily from new, small, subdivisions with single family homes primarily in the western section of the district.

The availability of undeveloped land, and overall suburban pattern of development has generated a strong market for single family homes, appealing to many homebuyers. New subdivisions in the Broad Rock District include: Belmont Woods, Endicott, Fawnbrook and Cullenwood. Overall, the growth in single family subdivisions as envisioned in the 1983 Master Plan has contributed to an increase of 870 housing units between 1980 and 2000. This eight percent increase was the greatest of any area in the City and contributed to a population increase in the District for that time period.

New housing and the resulting population growth in the area has led in part to the construction of several new public facilities including Boushall Middle School on Hopkins Road, the Broad Rock Sports Complex on Warwick Road, and the Hickory Hill Community Center on Belt Boulevard.

The intersection of Broad Rock Boulevard and Walmsley Road continues to serve as a commercial node, which has undergone some transition and recent expansion. The southeast corner of the intersection contains a strip shopping center, constructed in 1965. The strip was previously anchored by a prominent grocery store, but is now occupied by a large national chain drug store. Northwest of the intersection, a new supermarket occupies the former Branches Shopping Center, which was almost completely vacant for 15 years.

Several transportation improvements have also affected land use in the Broad Rock District. Hopkins Road has been widened and realigned south of Belt Boulevard to move traffic more safely and efficiently. An extended Belmont Road intersects with Walmsley Boulevard to provide better access to the Chippenham Parkway and Belmont Road interchange. Pending transportation improvements include the widening of Walmsley Boulevard from Chippenham Parkway to Belmont Road and the widening of Hull Street Road. Most recently, Warwick Road has been widened, realigned, and extended beyond Hopkins Road to Bells Road. This has provided an east-west travel route across the District.

Environmental Constraints Affecting Land Use

Although the Broad Rock District has significant amounts of vacant land, not all of the land is appropriate for development. A number of constraints to development are the result of the natural environment. The most significant environmental factor impacting development in the Broad Rock District results from the James River and its five tributary streams that run through the District. These streams (Broad Rock Creek, Falling Creek, Goode Creek, Grindall Creek, and Pocoshom Creek) have adjacent flood plains and are located within Chesapeake Bay Preservation Areas. In these areas, statutory requirements limit development or require specific performance standards to protect both property and water quality.

The banks of the James River contain both Chesapeake Bay Preservation Areas and a 100-year flood plain that in portions extends as far west as Interstate 95. As with all tributary streams of the Chesapeake Bay, the 100-foot strip of land immediately adjacent to the James has been designated as a Resource Protection Area. In these areas, virtually all development is prohibited. The exceptions are for water dependent uses, redevelopment activities, or development within an "Intensely Developed Area" or IDA. The area covered by the City's Deepwater Terminal has been designated as an IDA, the only such designation outside of Downtown.

The Broad Rock District also contains a few non-tidal wetlands. The U. S. Army Corps of Engineers regulates development on or adjacent to non-tidal wetlands, with the intent of preventing destruction or damage to these environmentally sensitive areas. Identified areas of non-tidal wetlands in Broad Rock parallel Grindall Creek between Jefferson Davis Highway and Broad Rock Boulevard, the entire run of Pocoshock Creek, and an unnamed north-south creek in the Cedar Farms subdivision north of Falling Creek Reservoir at the City/Chesterfield County line. Smaller wetlands surround ponds north of Pettus Road, west of Dorset Road, at the south terminus of Bathgate Road and north of Lamberts Road, west of the CSX rail line. Non-tidal wetlands are also included in the Chesapeake Bay Preservation Area designated lands.

The District's historic role as an industrial center for the City may have resulted in older sites with some level of environmental constraints to future development or reuse.

Expected Changes and Trends

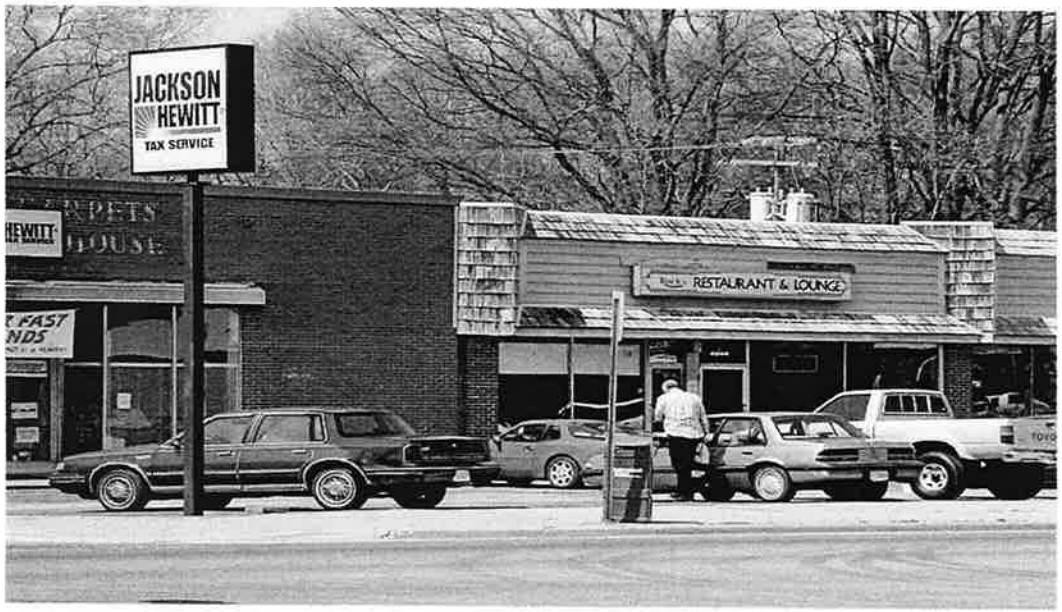
While the general pattern of land use has already been established in the Broad Rock District, there remain numerous opportunities for substantial change over the next 15 to 20 years. As one of only a few Districts citywide that offer any reasonable amount of vacant and developable land, Broad Rock presents a number of opportunities for new residential, commercial, and industrial development. It is expected that new residential subdivisions will continue to be developed both on undeveloped and on larger residential estates that may become subdivided. Similar opportunities exist for multi-family development although fewer

sites are likely to be developed. Industrial development is expected to continue as land uses along the Jefferson Davis Highway corridor undergo transition to light manufacturing on the sites of former larger retailers. Several vacant sites along the I-95 corridor will likely be developed during this time period as well. There will also be continued demand for a variety of small scale, light industrial uses throughout the Jefferson Davis Corridor.

Significant Issues

While the Broad Rock District presents several future development opportunities, a few key issues must be considered when making future land use decisions. The following list summarizes the most significant land use issues in the Broad Rock District.

- **Vacant land within the District**
  A relatively high percentage of existing land within the District is vacant. This under-utilization of land provides significant opportunities for residential housing and economic development.



- **Impact of Commercial deterioration**
  Deterioration and departure of commercial uses along Jefferson Davis Highway is exerting a negative influence on the street and surrounding neighborhoods.
- **Redevelopment Opportunity**
  In the eastern portion of the District, an opportunity exists near the intersection of Bellemeade Road and Jefferson Davis Highway, where the deteriorated Windsor Apartments and Madison Arms Apartments have been demolished. Identified as a Housing Improvement Area in the 1983 Master Plan, residential development is no longer the preferred use at this location. Continued clearance and future development of the site could allow for use as an employment-based center, with clean industrial, office or retail uses.
- **An increased need for commercial activity**
  There is a need for increased commercial activity in the District. Stronger commercial centers would also help improve the existing housing market and make neighborhoods more attractive and convenient.
- **Minimize conflicts**
  There is a need to mitigate and minimize conflicts that exist between incompatible land uses. There are specific land use conflicts where single family residential uses abut industrial or

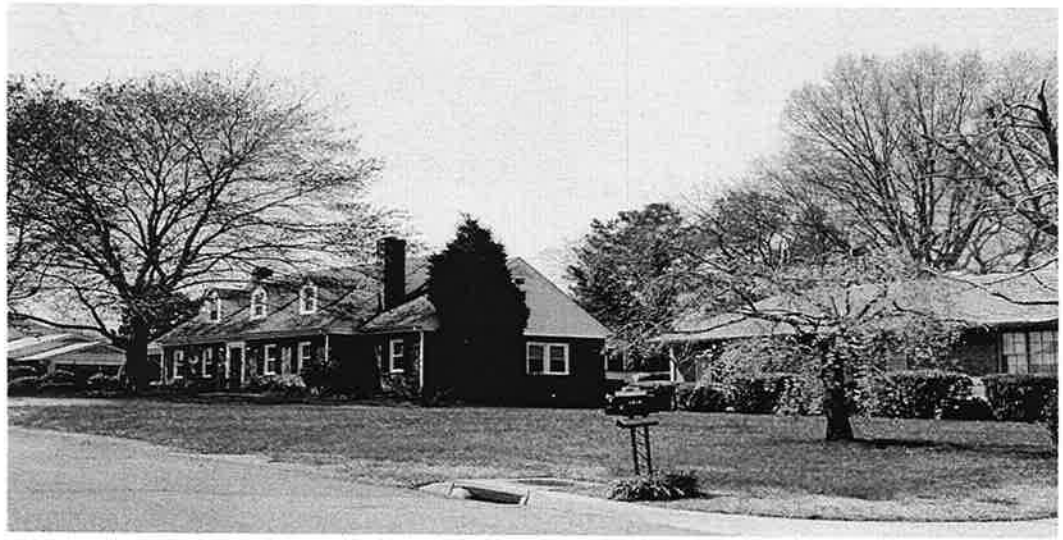
commercial uses (particularly along Jefferson Davis Highway and along Hull Street).

- **Improvements needed**
  Infrastructure improvements are needed in various parts of the District to address inadequacies in stormwater drainage.
- **Public park space and community facilities needed**
  Additional public park space and community facilities are needed throughout the District. Sites that are currently inappropriate for development due to environmental constraints offer opportunities for passive recreational uses.

Land Use Plan

Overview

The land use plan for the Broad Rock District recognizes the nature of existing development and accommodates appropriate opportunities for additional growth. With large tracts of land available for development, the Broad Rock District provides the City's greatest opportunity for future residential development and potential population growth. In the western half of the District, the plan retains the predominant single family residential use. Several developable sites within that area are identified as appropriate for single family development with the potential for higher densities of single family uses if strict development standards can be met. The plan also encourages the retention of the industrial core of the District, with a few site-specific opportunities for new economic development. Other concepts include additional public open space opportunities and strategies for site-specific redevelopment intended to increase employment opportunities. The plan recognizes the need to allow flexibility of development and also encourages quality development. Several locations within the Broad Rock District are thus identified.



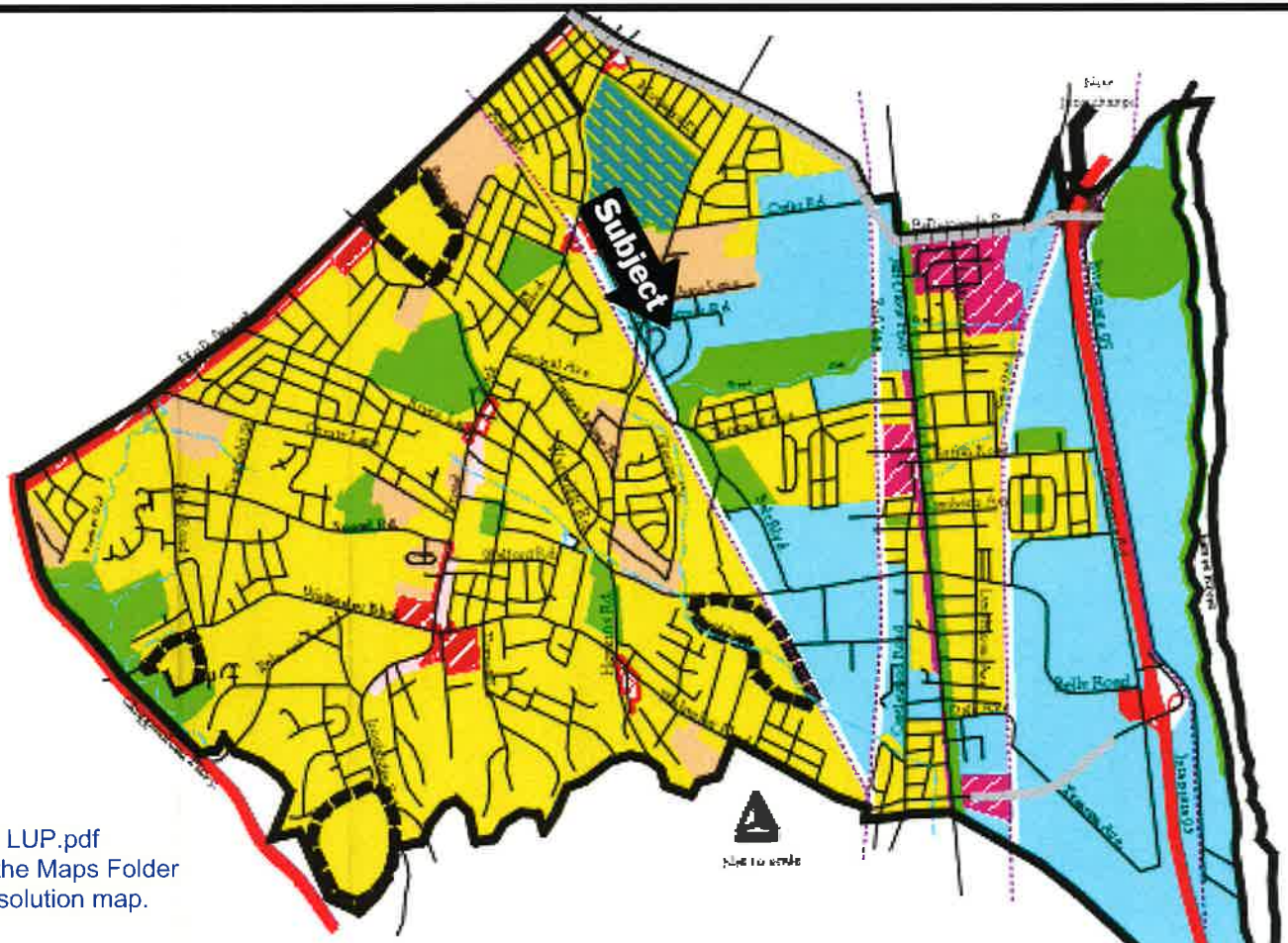
Guiding Land Use Principles

The policies and strategies established for the Broad Rock District were based in part on the guiding land use principles that follow:

- Revitalization of the Jefferson Davis Highway corridor is a high priority.
- Existing land use conflicts within the District should be resolved, particularly those that exist between residential and non-residential uses.
- Specific vacant parcels within the District may be appropriate for multi-family residential development only if strict standards for design, density and access can be adequately developed and met.
- Public park space within the District should be increased, with an emphasis on increased public access to the James River.

Land Use Policies and Strategies

The following land use policies and strategies are designed to address the significant issues. These policies and strategies also



NOTE:
Open map BR LUP.pdf
file located in the Maps Folder
for a higher resolution map.

- Housing Opportunity Areas
- Single Family (low density)
- Single-Family (medium density)
- Multi-Family (medium density)
- Multi-Family (high density)
- Multi-Family (very high density)
- Transitional Office
- General Office
- Mixed Use
- Neighborhood Commercial
- Community Commercial
- General Commercial
- Industrial
- Public & Open Space
- Institutional
- Economic Opportunity Areas
- Corridor Enhancement

Broad Rock Planning District

Land Use Plan

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use plan map

take the district's guiding land use principles into account in their formulation, and correspond to the Land Use Plan map for Broad Rock.

- **Housing Opportunity Areas (HOA)** Several residential areas on the Land Use Plan map are also designated as Housing Opportunity Areas (HOA). This designation indicates that the site is appropriate for residential development consistent with the underlying land use plan designation. However, the HOA designation suggests that, for these specific sites, higher density residential development is also appropriate, provided that specific objectives can be met. These objectives are: adequate access to the site be provided without increasing traffic volumes on roadways through existing residential neighborhoods; an objective method of design review must be incorporated into the site development process; and adequate buffering between the proposed development site and adjacent lower density residential neighborhoods must be provided. Adherence to the objectives for any higher density development in an HOA should ensure that the development will be an asset to the neighborhood, the District and the City.

  - The Housing Opportunity Area located north and south of Grindall Creek between Warwick Road and the Amphill Heights subdivision is also appropriate for higher density residential development provided that adequate protection can be provided to Grindall Creek. Environmental restrictions imposed by the Chesapeake Bay Preservation Program limit the extent to which this site can be developed. Primary access to the site should be provided from Warwick Road.
  - The Housing Opportunity Area located west of Ironbridge Road and south of the Brookbury subdivision near the Chesterfield County line (also partially located in a Chesapeake Bay Preservation Area) contains one of the few natural areas remaining within the City limits. In order to provide incentives to protect a significant portion of the site and allow it to remain in a natural setting, a higher single family residential density should be allowed. Primary access to the site should be from Ironbridge Road.
  - The Housing Opportunity Area located at the northeast corner of Warwick Road and Hull Street is appropriate for single family residential development. However, a higher density development, such as town homes or apartments, may be appropriate provided that it is developed as a single complex and is adequately buffered from the surrounding single family neighborhoods. In any circumstance, the primary access to the site should

be from Warwick or Hull Street Roads.

- The Housing Opportunity Area identified for the area south of Walmsley Boulevard, west of Hey Road and east of Pocosham Park, is appropriate for single family residential development. However, a higher density development, such as town homes or apartments, may be appropriate provided that it is developed as a single complex and is adequately buffered from the surrounding single family neighborhoods.

- **Single family residential is the predominant use.**
  Single family residential use is the predominant and most appropriate use throughout the District, particularly west of the CSX rail line, as shown on the Land Use Plan map. Much of the land currently vacant in this area is appropriate for low-density single family residential use, at compatible densities to adjacent neighborhoods. Areas identified on the Land Use Plan map for single family use are appropriate only for that designated use.

- **Additional multi-family housing.**
  The development of any additional multi-family housing must be subject to strict controls on design, density and access in order to ensure compatibility with the prevailing single family residential uses.

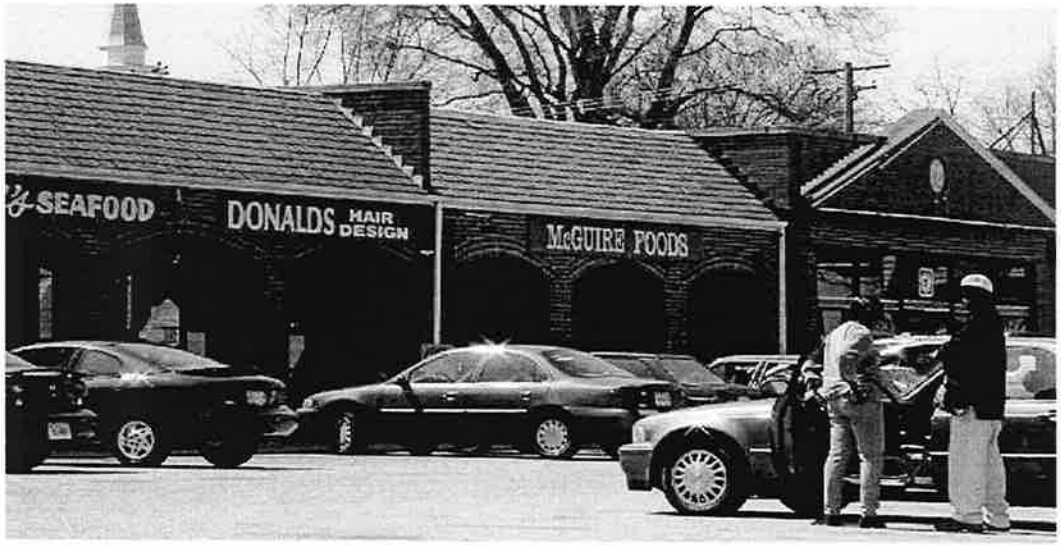
- **New residential development on Shaw Lane.**
  Residential and vacant land on the north side of Shaw Lane represents an opportunity for new residential development between the existing single family residential uses on Shaw Lane and the apartment complex to the north. A degree of flexibility should be allowed for development of the vacant land. Expansion of the multi-family development to the north should also be permitted provided that it can be integrated into a larger complex, and either adequately buffers the existing single family uses or acquires them as part of the development. Office or service uses are appropriate only if they involve incorporation of all or most of the existing single family parcels on the north side of Shaw Lane.

- **Land use conflicts district wide.**
  Land use conflicts between low density, residential uses and higher intensity uses (commercial, office, retail and industrial) frequently result in problems for both residential and commercial property owners. Accordingly, landscaped buffers of adequate depth and width should be used wherever non-residential uses abut residential uses. This is intended to protect residential neighborhoods from the excessive noise and traffic created by industrial, commercial and business uses.

- **Commercial Uses.**
  The Land Use Plan supports commercial activities and recognizes the crucial role that commerce plays in the District's job base, economic vitality and overall quality of life. Strategies intended to accommodate appropriate and beneficial commercial growth are to be accommodated, while at the same time safeguarding adjacent neighborhoods from the negative effects of commercial encroachment. The following policies apply to commercial development:

  - new commercial activity should occur only at the intersection of major transportation corridors, as shown on the Land Use Plan, in order to maximize access and convenience.
  - no additional commercial development along the District's major transportation corridors should be permitted except as shown on the Land Use Plan map. Opportunities to reduce obsolete, unattractive and deteriorated strip commercial development should be sought and encouraged.

- **Neighborhood commercial district-wide.**
  Neighborhood commercial uses as shown on the Land Use Plan map should be limited to those uses that provide goods and services generally used by the immediate surrounding



neighborhood and are not intended to draw from a broader market. The three neighborhood commercial areas shown on the Land Use Plan for the Broad Rock District are: Walmsley Boulevard at Hopkins Road; Broad Rock Boulevard at Warwick Road; and Broad Rock at Robin View Drive. Commercial uses at these locations should not be allowed to expand beyond the existing boundaries as shown on the Land Use Plan map. Isolated neighborhood commercial uses not specifically identified on the Land Use Plan Map are not appropriate and, where currently existing, should be phased out over time.

- **Community commercial at Walmsley Boulevard and Ironbridge Road Service Center.**
  Community commercial use is appropriate at the intersection of Walmsley Boulevard and Ironbridge Road. Expansion of commercial uses in this service center is appropriate only if the market can support the additional businesses. Any expansion should not negatively impact the surrounding residential neighborhoods. Adequate buffers and transportation access should be addressed as part of any development. Expansion should occur to the west of the intersection along the north side of Walmsley Boulevard and to the east on the south side of Walmsley Boulevard at Cottrell Road as identified on the Land Use Plan Map.

- **Development along Broad Rock Boulevard.**
  The Land Use Plan Map identifies a variety of land uses along Broad Rock Road Boulevard. However, the long-term appropriateness of these uses is unclear. Therefore, a corridor plan is recommended to ensure proper future development along Broad Rock Boulevard.

  Commercial uses at the intersections of Broad Rock Boulevard and Bryce Land and Broad Rock and Warwick Roads should be limited to the areas generally shown on the Land Use Plan map for community commercial and neighborhood commercial use, respectively.

  Office uses are shown along much of Broad Rock Boulevard and Iron Bridge Road as a means of reflecting the market for small office space and to provide transitional buffering uses between these high traffic corridors and adjacent single family residential uses.

- **Commercial along Hull Street.**
  The existing land use pattern on Hull Street Road, particularly between Warwick Road and the City limits, is one of strip commercial development of varying depths, backing up to stable

residential neighborhoods. Continuation of this pattern of uses, with some transition to office uses, has historically been the land use policy for Hull Street. A similar approach is reflected on the current Land Use Plan map. However, it is recognized that, like several other major transportation corridors in the City, further study of conditions along Hull Street is warranted, to more effectively develop land use and/or redevelopment strategies for both sides of the corridor. Until such time as a more detailed plan can be developed, office and community commercial uses should be allowed, provided that they can be adequately buffered from adjacent neighborhoods. All traffic and access should be focused on Hull Street. Significant consideration should be given to any development proposals that provide enhanced design and an improved image for the Corridor.

- **Economic Opportunity Areas.** There are three sites within the Broad Rock District that are identified on the Land Use Plan Map as Economic Opportunity Areas. These areas are intended to provide flexibility for future development, provided that such development enhances the economic base of the city, does not negatively impact its surroundings, and provides tax base and employment opportunities. The areas are described as follows:

  - Bellemeade Road – The 70-acre site identified as an Economic Opportunity Area on the Land Use Plan map at Bellemeade Road is located in both the Old South and Broad Rock Districts.

    To the south of Bellemeade Road in the Broad Rock District exist what remains of two large, mostly vacant and dilapidated apartment complexes. Broad Rock Creek crosses a portion of the site. To the north of Bellemeade Road in the Old South District exist commercial uses fronting Jefferson Davis Highway and Bellemeade Road, vacant land, and some apartments.

    Appropriate uses include light manufacturing, office, retail, or a mixture of these uses. Although continued dedication of this site for multi-family housing is not appropriate, multi-family housing as one element of a larger mixed-use development may be appropriate and should be considered. Adequate buffering from the surrounding single family homes should be provided and consideration must be given to existing residents if they are relocated. These parcels should be assembled and redeveloped together to maximize the opportunities and marketability of this site. A redevelopment designation may be necessary to make this occur.

  - The former shopping center at Jefferson Davis Highway and Walmsley Boulevard - The Plan recommends redevelopment of this area as a mixed-use commercial service area intended to capture new markets resulting from the planned eastern extension of Walmsley Boulevard from Jefferson Davis Highway to I-95.

- West Side of Jefferson Davis Highway at Ruffin Road - This area is identified as an Economic Opportunity Area in order to better accommodate a range of uses that can effectively contribute to the Jefferson Davis Highway corridor. The area generally identified on the Land Use Plan map currently consists of several parcels, and the most appropriate strategy is to encourage consolidation of as many of the parcels as practical to support a more substantial development. An acceptable alternative would be for development of portions of this area to occur separately, provided that a unified design scheme can ultimately be followed. While a variety of commercial or light industrial uses are appropriate for this area, the immediate frontage on Jefferson Davis Highway should be of the highest quality design, respectful of this gateway corridor. Retail on Jefferson Davis should be encouraged. Under either circumstance development should not negatively impact the surrounding residential neighborhoods.

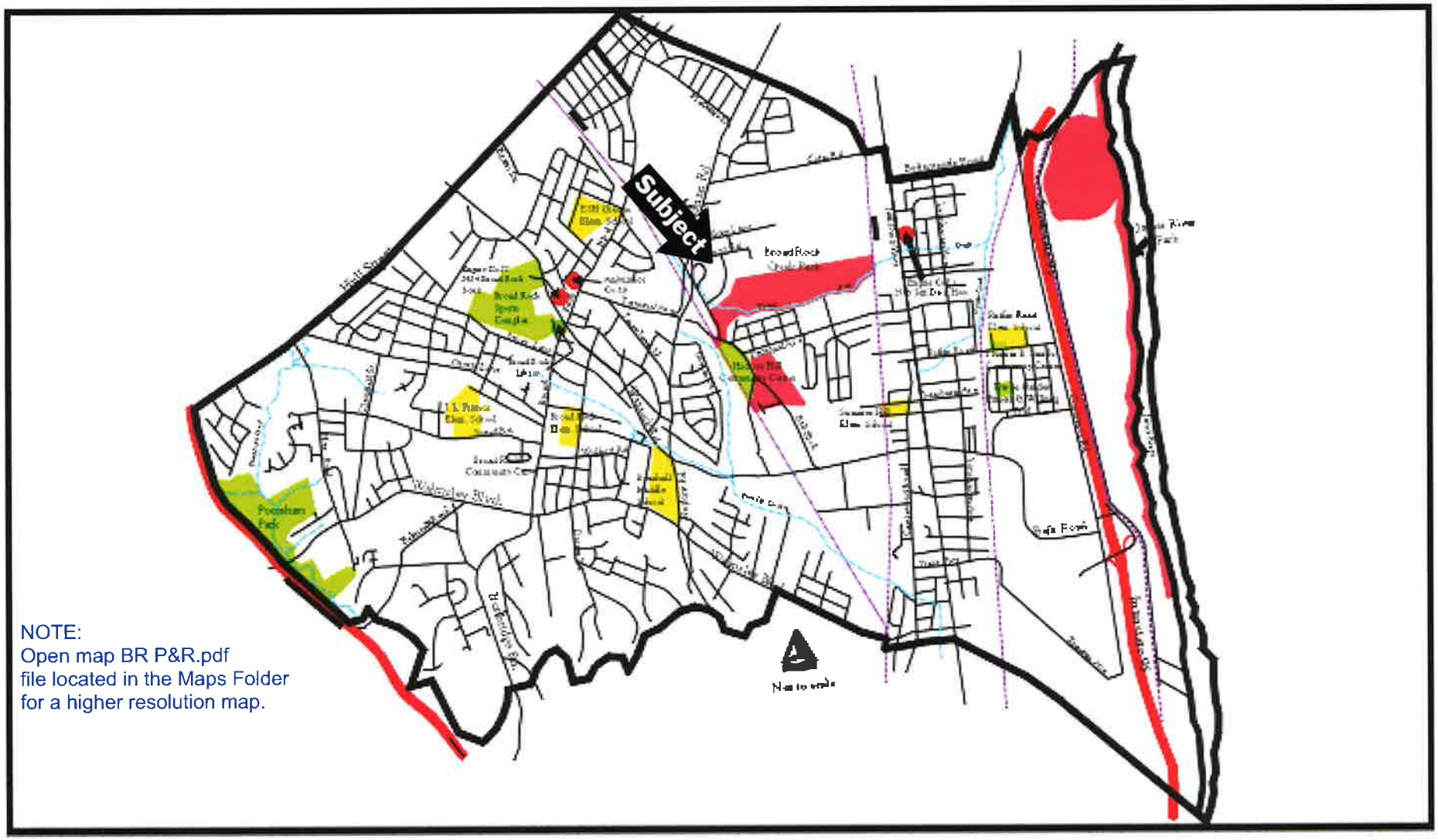
- **Industrial Development**
  Industrial uses in the Broad Rock District play an important part in the economic and employment base in the City of Richmond. Continuation of this role is reflected on the Land Use Plan Map through the identification of large areas of land designated for industrial use. Some of these areas represent an appropriate expansion of current industrial uses. With the exception of the Davee Gardens community, almost all land east of the CSX East Main rail line is designated for industrial use. Between Jefferson Davis Highway and west to the West CSX main line, large areas of land are also identified for industrial use, most of which are currently used as such. Several undeveloped sites are included and where shown represent rare opportunities in the City for new industrial or employment based development. Such locations are frequently near rail lines, in proximity to other similar uses, and usually somewhat distant from larger concentration of single family residential uses. Where these locations abut residential uses, appropriate buffering should be encouraged.

- **Future uses along Jefferson Davis Highway**
  The Land Use Plan Map reflects recommended improvements to the Jefferson Davis Highway corridor from the James River in the Old South District to the City limits. Along sections of the corridor areas have been designated on the Land Use map for commercial, office or industrial use, with enhanced landscaping and coordinated signage where appropriate to improve the image of the corridor as a means to attract new businesses and aid in the revitalization of adjacent residential neighborhoods. Similar improvements, with a greater emphasis on pedestrian streetscape amenities, would be appropriate along those portions of the corridor designated for residential use on the Land Use Plan map.

  Mixed-use development, including office and community commercial uses, are most appropriate on the west side of Jefferson Davis. Larger scale developments should be encouraged to concentrate at locations identified as Economic Opportunity Areas.

  The long narrow area of land generally between Castlewood Road and Jefferson Davis Highway is currently a mixture of industrial and residential uses, with a variety of commercial uses fronting Jefferson Davis Highway. A continuation of this general pattern of use is appropriate and identified on the Land Use Plan Map. However, industrial uses identified for the area north of Dale Avenue should be confined to light industrial or service uses to minimize the negative impact on adjacent residential areas. Appropriate uses might include flex space or supporting offices. Any expansion of industrial uses in this area, while not inappropriate, should give careful consideration to impacts on the residential areas.

- **Parks and Recreation.**
  The Land Use Plan map also reflects those elements of the recreation and parks plan as they relate to land use. The Plan recognizes the existing City parks in the Broad Rock District and also identifies lands appropriate for City park system expansion. Park expansion recommendations are intended to facilitate the development of:
  - the two rock and gravel quarries located along the James River (located in both the Old South and Broad Rock Districts), identified for future re-use to accommodate public recreational facilities such as marinas and/or other water-related facilities and activities;
  - a linear park along the west side of the James River between Ancarrow's Landing (in the Old South District) and the Port of Richmond Terminal;
  - a passive park on Belt Boulevard across from and next to Hickory Hill Community Center; and
  - a passive park along Broad Rock Creek, between Belt Boulevard and the CSX rail line west of Jefferson Davis Highway.
- **Transportation.**
  The Land Use Plan map also reflects those elements of the Transportation Plan as they relate to land use. The following key transportation improvements are worth noting, insofar as they have significant impacts on land uses within the District.
  - A new interchange at Bellemeade Road and I-95.
  - A connector between Belt Boulevard and the new Bellemeade/I-95 interchange.
  - Extension of Walmsley Boulevard from Jefferson Davis Highway to Commerce Road.
  - Widening of Walmsley Boulevard from two to four lanes from the Chesterfield County line to Jefferson Davis Highway.
  - A designated high-speed commuter rail corridor on existing north-south CSX line between Jefferson Davis Highway and I-95.
  - A light rail trolley route on Jefferson Davis Highway to Chesterfield, County.
  - A reconfigured US Route 1 (Jefferson Davis Highway) to include a right-of-way for cyclists, pedestrians, and potentially light rail.
  - Widening of Hull Street from 4 to 6 lanes between Elkhardt to Dixon Roads.
  - Improve the underpass of I-95 at Bells Road to support truck movements.

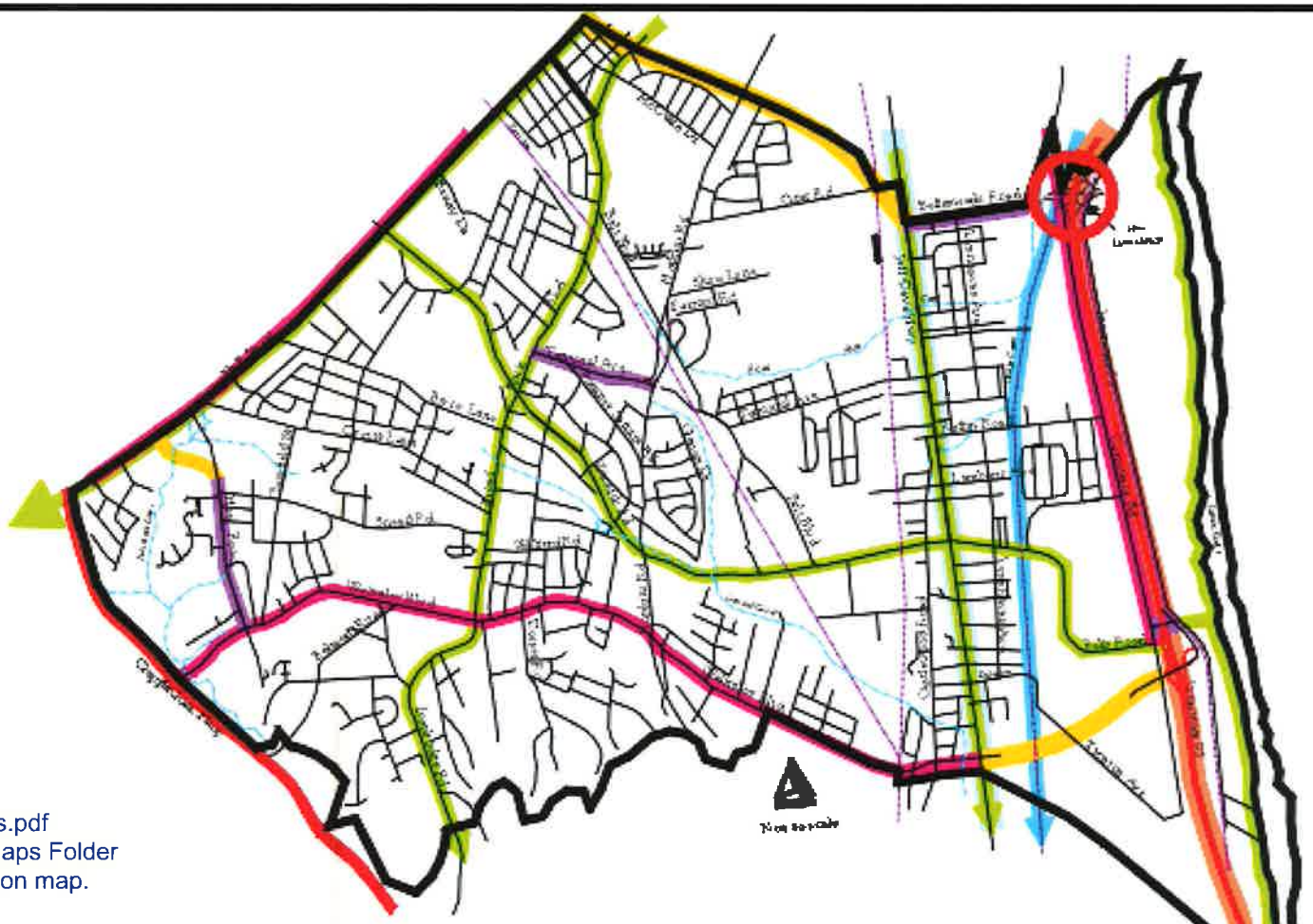


NOTE:
Open map BR P&R.pdf
file located in the Maps Folder
for a higher resolution map.

- Fire/Rescue
- Public Libraries
- Public Schools
- Public Parks
- School/Community Facility
- Proposed Public Parks

Broad Rock Planning District

Parks & Recreation Areas Schools & Public Facilities



NOTE:
Open map BR trans.pdf
file located in the Maps Folder
for a higher resolution map.

- Bike Routes
- New Roadway Segments
- Operating Improvements
- Additional Travel Lanes
- Express Bus Service
- Light Rail Transit
- Light Rail (Conceptual Route)
- Regional Commuter Rail/High Speed Rail
- Interchange Improvements

Broad Rock Planning District

Transportation and Roadway Improvements

APPENDIX 10

Statements of Public Notification and Associated Responses

Chesterfield Observer *Your Community Newspaper Since 1995*

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ADVERTISING AFFIDAVIT

Client	Description	Ad Size	Cost (per issue)
Chesterfield County Timmons Group	Draft Environmental Assessment for the Virginia State Energy Program's Cephas C&D Wastes Biomass Project, Richmond, Virginia	1 col x 6.5938 in.	$360.00

DRAFT ENVIRONMENTAL ASSESSMENT FOR THE VIRGINIA STATE ENERGY PROGRAM'S CEPHAS C&D WASTES BIOMASS PROJECT, RICHMOND, VIRGINIA

Through the American Recovery and Reinvestment Act of 2009 (Public Law 111-5, 123 Stat. 115), the U.S. Department of Energy (DOE) proposes to allow the Virginia Department of Mines, Minerals, and Energy (DMME) to use $500,000 from the State Energy Program (SEP) grant that DOE awarded to Virginia to provide financial assistance in a cost-sharing arrangement to Cephas C&D Wastes (Cephas). The total estimated cost of the project would be $1,259,900. Cephas' proposed project would result in the construction and operation of a new open loop biomass manufacturing facility. The proposed facility would bring in woody debris, trees, pallets, etc. and prepare chipped wood products for use in their customers' energy producing facilities.
DOE prepared the Draft Environmental Assessment (EA) to evaluate the potential environmental consequences of allowing DMME to provide financial assistance to Cephas for its proposed project. DOE is inviting public comment on the Draft EA for a period of 15 days starting with publication of this notice. A copy of the Draft EA is available for review at the City of Richmond Main Public Library, 101 East Franklin Street, Richmond, Virginia, 23219 (804-646-4774. A copy will also be available at the Broad Rock Branch Library located at 4820 Warwick Road, Richmond, Virginia 23224 (804-646-8488).
A copy of the EA may also be obtained by contacting Mr. Cliff Whyte as noted below or through NETL's website at http://www.netl.doe.gov/publications/others/nepa/ea.html.
Comments may be submitted by letter to the attention of Mr. Cliff Whyte, U.S. Department of Energy, National Energy Technology Laboratory, 3610 Collins Ferry Road, P.O. Box 880, MS B07, Morgantown, West Virginia 26507-0880, submitted by e-mail to cliff.whyte@netl.doe.gov, or faxed to (304) 285-4403. Envelopes, subject lines of e-mails, and faxes should be labeled "Cephas Draft EA Comments." The public comment period ends August 3, 2010. DOE will consider late submissions to the extent practicable.

The Observer, Inc.

Publisher of

CHESTERFIELD OBSERVER

This is to certify that the attached legal notice was published by Chesterfield Observer in the county of Chesterfield, state of Virginia, on the following date(s): **7/28/2010**

Sworn to and subscribed before me this 29th day of July, 2010.

Legal Affiant

James T, Grooms Jr., Notary Public

My commission expires: February 29, 2012
Commission I.D. 7182093

JAMES T. GROOMS, JR. NOTARY PUBLIC COMMONWEALTH OF VIRGINIA #7182093 EXPIRES 02-29-12 SEAL

A BILL. PLEASE PAY FROM INVOICE. THANK YOU.

Richmond Times-Dispatch
TimesDispatch.com

Richmond Times-Dispatch Order Confirmation for Ad #0001968243-01

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Client Phone	804-200-6453	**Payor Phone**	804-200-6453		
Account#	3021993	**Payor Account**	3021993		
Address	SUITE 300,1001 BOULDERS PARKWAY RICHMOND VA 23225 USA	**Payor Address**	SUITE 300,1001 BOULDERS PARKWA RICHMOND VA 23225	**Ordered By**	John Russell
Fax					
EMail	john.russell@timmons.com				

Total Amount	**$570.40**
Payment Amt	**$0.00**
Amount Due	**$570.40**

Status

Materials

Tear Sheets	Proofs	Affidavits	PO Number	Blind Box
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Confirmation Notes:

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Ad Number	Ad Type	Color	Production Color
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Pick Up Number	**Ad Size**	**Production Method**	**Production Notes**
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Product	Placement/Class	Position	# Inserts
Run Schedule Invoice Text			
Run Dates			
Tag Line			

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draft ENVIRONMENTAL ASSESSMENT FOR THE VIRGINIA STATE ENERGY PRO

7/20/2010

DRAFTENVIRONMENTALASSESSMENTFORTHEVIRGINIASTATEENERGYPROGRAMSCEPHASCDWASTESBIOMASSPROJECTRICHM

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draft ENVIRONMENTAL ASSESSMENT FOR THE VIRGINIA STATE ENERGY PRO

7/20/2010, 7/21/2010, 7/22/2010, 7/23/2010, 7/24/2010, 7/25/2010, 7/26/2010

DRAFTENVIRONMENTALASSESSMENTFORTHEVIRGINIASTATEENERGYPROGRAMSCEPHASCDWASTESBIOMASSPROJECTRICHM

Ad Content Proof Actual Size

DRAFT ENVIRONMENTAL ASSESSMENT FOR THE VIRGINIA STATE ENERGY PROGRAM'S CEPHAS C&D WASTES BIOMASS PROJECT, RICHMOND, VIRGINIA

Through the American Recovery and Reinvestment Act of 2009 (Public Law 111-5, 123 Stat. 115), the U.S. Department of Energy (DOE) proposes to allow the Virginia Department of Mines, Minerals, and Energy (DMME) to use $500,000 from the State Energy Program (SEP) grant that DOE awarded to Virginia to provide financial assistance in a cost-sharing arrangement to Cephas C&D Wastes (Cephas). The total estimated cost of the project would be $1,259,900. Cephas' proposed project would result in the construction and operation of a new open loop biomass manufacturing facility. The proposed facility would bring in woody debris, trees, pallets, etc. and prepare chipped wood products for use in their consumers' energy producing facilities.

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Comments may be submitted by letter to the attention of Mr. Cliff Whyte, U.S. Department of Energy, National Energy Technology Laboratory, 3610 Collins Ferry Road, P.O. Box 880, MS B07, Morgantown, West Virginia 26507-0880, submitted by e-mail to cliff.whyte@netl.doe.gov, or faxed to (304) 285-4403. Envelopes, subject lines of e-mails, and faxes should be labeled "Cephas Draft EA Comments." The public comment period ends August 3, 2010. DOE will consider late submissions to the extent practicable.

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HEAVY EQUIPMENT HAULING

August 4, 2010

Mr. Cliff Whyte,
Office of Project Facilitation & Compliance
U. S. Department of Energy
National Energy Technology Laboratory
P. O. Box 880, MS B07
3610 Collins Ferry Road
Morgantown, WV 26507-0880
Ref: Cephas Draft EA Comments

Re: Va. State Energy Program's Cephas C&D Wastes Biomass Project, Richmond, Va. (Draft EA; DOE/EA-1767D)

Dear Mr. Whyte,

I have reviewed the EA report for the Cephas Wastes Biomass Project. The report was very informative and concise. We felt that it was important to note that three C&D Waste Recycling Facilities (also know as Material Recovery Facilities) currently exist in the Richmond Metropolitan area (city of Richmond, Henrico County, and Chesterfield County). All three have been fully operational since 2008. I cannot speak for all three. However, our company, S. B. Cox, Inc., owns a 50,000 sq. ft. fully integrated and state of the art Construction Debris Recycling Facility in downtown Richmond, Va. We have been fully operational since July 2008.

Our only intention in writing this letter is to clarify the information found on page 2 of the report under paragraph 1.2 **Purpose and Need** titled Virginia and Cephas.

Please call if you need additional information or would like to discuss.

Sincerely,

Michael R. Barr
Chief Financial Officer
S. B. Cox, Inc.
804-222-3500

MAILING ADDRESS
P.O. BOX 7737
RICHMOND, VA 23231-0237
PHONE: 804/222-3500
FAX: 804/222-7837

CORPORATE OFFICE
901 POTOMAC STREET
RICHMOND, VA. 23231
WWW.SBCOXDEMOLITION.COM

OPERATIONS & SALVAGE YARD
5200 HATCHER ST.
RICHMOND, VA. 23231

APPENDIX 11

Perennial Flow Determination

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

August 20, 2010

City of Richmond, Department of Community Development
Bureau of Permits and Inspections Engineering Services
900 East Broad Street, Room 110
Richmond, VA 23219
Attn: Neville A. Simon

RE: Perennial Stream Determination
Cephas Property
City of Richmond, Virginia

Applicant: Cephas Industries
3413 Formex Road
Richmond, VA 23224
Attn: Morris Cephas

Dear Mr. Simon,

Enclosed please find a Perennial Stream Determination Report for the above referenced property. The purpose of this report is to assess the perennial nature of the unnamed tributary of Broad Rock Creek which is located within the subject property in the city of Richmond, Virginia (See enclosed Vicinity Map). This perennial stream determination was conducted to verify the RPA/RMA limits for this tributary. The tributary drains from north to south across the subject property into Broad Rock Creek which is a tributary of the Lower James Watershed. A map showing the proximity of this site within this watershed (NWBD JL01) is attached for your review (See enclosed HUC Map). Broad Rock Creek is a perennial stream that flows from west to east located south of the subject property. Urban development surrounds the subject property on all sides and the property itself has been cleared and prepared for construction of a biomass manufacturing facility.

The perennial stream determination was based upon the methodology provided by the Fairfax Perennial Stream Field Identification Protocol. According to the Fairfax Methodology a stream must meet hydrologic, physical, and biological characteristics to be classified as perennial. We investigated all of the above characteristics within each stream reach and ranked them using a weighted scoring system to determine if a perennial value of at least 25 was achieved in order to satisfy the baseline threshold for the Fairfax Method (See enclosed Stream Data Sheets, Stream Photographs, and Perennial Stream/RPA Determination Map).

The stream assessment for the selected reach was evaluated near the junction of the unnamed tributary and Broad Rock Creek, near the southern boundary of the Cephas property. The upstream limit of the reach was defined at the culvert outfall found at the southern access road to the property, and the downstream limit 200 feet downstream of the outfall. Field observations of hydrology indicated a moderate flow of water in the channel with no evidence of high groundwater table or seeps and springs. Leaflitter, drift lines, and sediment on debris or plants were all found to have weak presence in the stream. Geomorphological features were

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analyzed for indicators of perennial nature of the stream. Riffle-pool sequencing was found to be moderate, and substrate sorting was weakly present. Moderate sediment was present in the streambed. No natural levees were present. Sinuosity was found to be moderate and no active or relic floodplain could be observed. The reach showed no evidence of a braided channel and weak evidence for recent alluvial deposits. A weak bankfull bench was observed, but a strong continuous bed and bank was present. The channel was not second order or greater. The soils making up the streambed contained redoximorphic features, and were of relatively low (2) chroma. As for vegetation, no rooted aquatic plants or periphyton/green algae were observed. Iron oxidizing bacteria/fungus was found in weak quantities, and wetland plants found in the streambed were mostly FACU, UPL, or nonexistent. Benthic macroinvertebrates were of weak population in the stream, and no vertebrates except for the weak presence of amphibians (frogs) were found. Using the Fairfax method, the total score for the reach is 16.5, which is insufficient to indicate that the tributary is perennial; therefore, a Resource Protection Area would not be present up to this point.

Please review the enclosed material and contact Brian Breissinger at (804) 200-6439 to schedule a site visit to review the assessment. Thank you and I look forward to hearing from you soon.

Respectfully,
Timmons Group

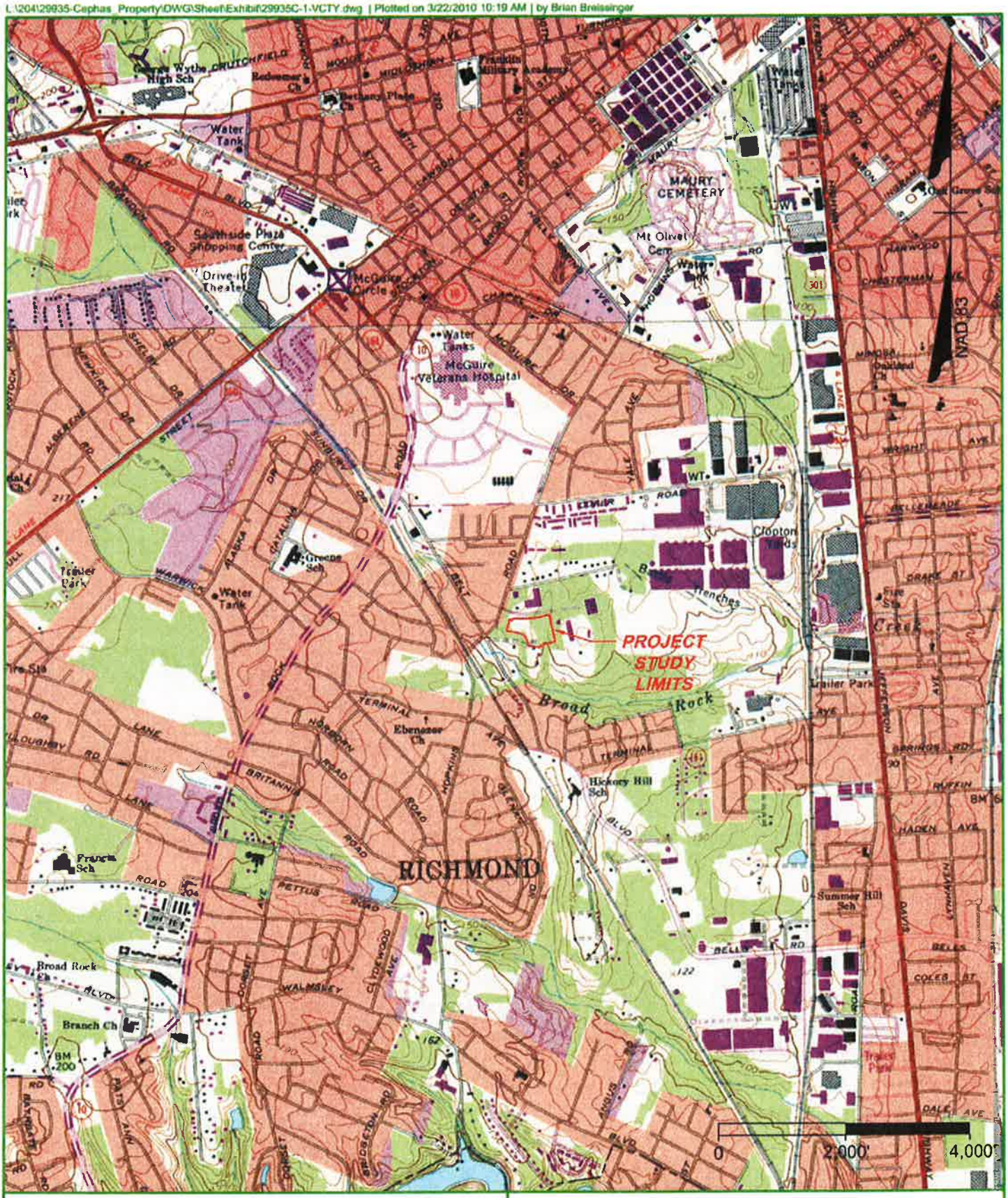
Brian Breissinger
Environmental Scientist

Kyle Springs, WPIT
Environmental Project Manager

Enclosures:

1. Vicinity Map
2. HUC Map
3. Perennial Stream/RPA Determination Map
4. Stream Assessment Sheets (1)
5. Stream Photographs

L:\204\29935-Cephas_Property\DWG\Sheet\Exhibit\29935C-1-VCTY.dwg | Plotted on 3/22/2010 10:19 AM | by Brian Breisinger



CEPHAS PROPERTY

CITY OF RICHMOND, VIRGINIA

VICINITY MAP

TIMMONS GROUP

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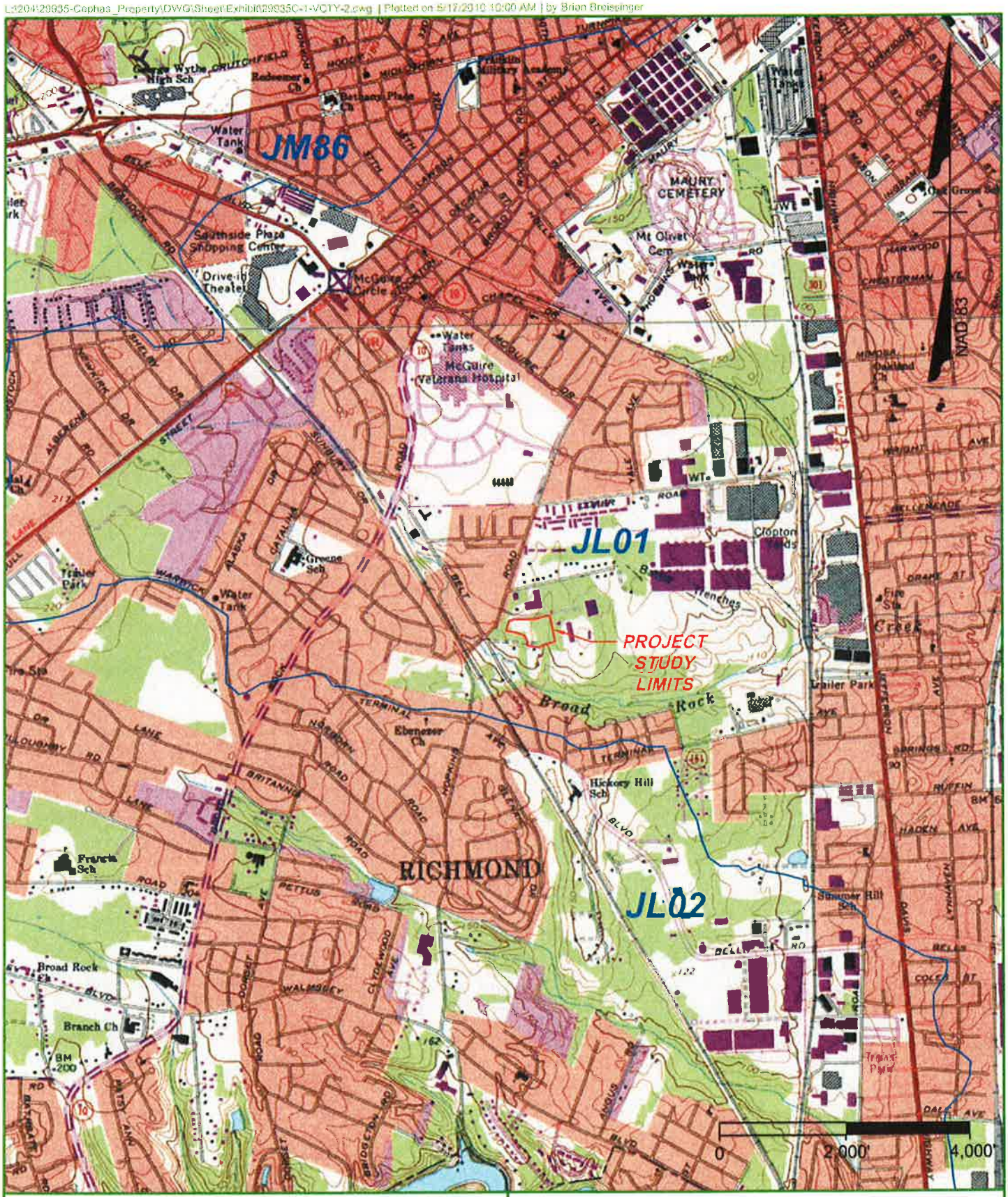
TIMMONS GROUP JOB NUMBER: *29935*
PROJECT STUDY LIMITS: *5.5 ACRES*
LATITUDE: *37°29'12"*
LONGITUDE: *77°27'48"*

U.S.G.S. QUADRANGLE(S): *DREWRYS BLUFF*
DATE: *1994*
WATERSHED: *JAMES RIVER, LOWER (TIDAL)*
HUC IDENTIFICATION: *JWBD JL01*

L:\204\29935-Cephas_Property\DWG\Sheet\Exhibit\29935C-1-VICTY-2.dwg | Plotted on 5/17/2010 10:00 AM | by Brian Breissinger



CEPHAS PROPERTY

CITY OF RICHMOND, VIRGINIA

HYDROLOGIC UNIT CODE MAP

TIMMONS GROUP

YOUR VISION ACHIEVED THROUGH OURS.

TIMMONS GROUP JOB NUMBER: *29935*
PROJECT STUDY LIMITS: *5.2 ACRES*
LATITUDE: *37°29'12"*
LONGITUDE: *77°27'58"*

U.S.G.S. QUADRANGLE(S): *DREWRYS BLUFF*
DATE: *1994*
WATERSHED: *JAMES RIVER, LOWER (TIDAL)*
HUC IDENTIFICATION: *NWBQ JL01*

Site ID: Cephas Property	Total Score:	Total Score:

Date: 5/26/10 Recorder: Brian Breissinger

Time: 8:00 AM Evaluators: Brian Breissinger

Field Indicators:

I.) Streamflow and Hydrology	Absent	Weak	Moderate	Strong
1.) Presence or absence of flowing water and > 48 hrs since last rainfall	0	1	2 ✓	3
2.) Presence of high groundwater table or seeps and springs	0 ✓	1	2	3
3.) Leaflitter in streambed	1.5	1 ✓	0.5	0
4.) Drift lines	0	0.5 ✓	1	1.5
5.) Sediment on debris or plants	0	0.5 ✓	1	1.5

Total Streamflow and Hydrology Points: 4

II.) Geomorphology	Absent	Weak	Moderate	Strong
1.) Riffle-pool sequence	0	1	2 ✓	3
2.) Substrate Sorting (USDA texture in streambed)	0	1 ✓	2	3
3.) Natural Levees	0 ✓	1	2	3
4.) Sinuosity	0	1	2 ✓	3
5.) Active or Relic Floodplain	0 ✓	1	2	3
6.) Braided Channel	0 ✓	1	2	3
7.) Recent Alluvial Deposits	0	1 ✓	2	3
8.) Bankfull Bench present	0	1 ✓	2	3
9.) Continuous Bed and Bank	0	1	2	3 ✓
10.) 2nd order or greater **channel** present	***Yes*** = 3		***No*** = 0 ✓	

Total Geomorphology Points: 10

III.) Streambed Soils				
1.) Redoximorphic features present in sides of channel or head cut.	***Present*** = 0 ✓		***Absent*** = 1.5	
2.) Chroma	gleyed = 3	1 = 2	2 = 1 ✓	> 2 = 0

Total Streambed Soils Points: 1

IV.) Vegetation	Absent	Weak	Moderate	Strong
1.) Rooted AQUATIC Plants in Streambed	0 ✓	1	2	3
2.) Presence of Periphyton/green algae	0 ✓	1	2	3
3.) Iron Oxidizing Bacteria/Fungus	0	0.5 ✓	1	1.5

4.) Wetland Plants in Streambed (Skip if no plants present in streambed)

SAV = 3 | Mostly OBL = 1.5 | Mostly FACW = 1 | Mostly FAC = 0.5 | Mostly FACU, UPL, or None = 0 ✓

Total Vegetation Points: 0.5

Comments:

Trillium cuneatum found along stream bank.

Front Page Total 15.5 points

V.) Benthic Macroinvertebrates	Absent	Weak	Moderate	Strong
1.) Benthic Macroinvertebrates	0	0.5 ✓	1	1.5
2.) Bivalves	0 ✓	1	2	3
3.) EPT taxa	***Present*** = 3			***Absent*** = 0 ✓

Total Benthic Macroinvertebrates Points: 0.5

VI.) Vertebrates	Absent	Weak	Moderate	Strong
1.) Fish	0 ✓	0.5	1	1.5
2.) Amphibians	0	0.5 ✓	1	1.5

Total Vertebrates Points: 0.5

Total Score: 16.5

Benthics/Amphibians Found:
Scuds, Pickerel Frogs found.

Weather
Rain Gauge N/A Date of Last Rainfall 05/23/2010 Rainfall Amount 0.30"

Reach Description
Upstream: TRB HCT GRC RCU✓POF SDO ARB RPA Other: Access road culvert
Downstream: TRB HCT GRC RCU POF SDO ARB✓RPA Other: 200' downstream of outfall
Comments:

Storm Network Connections and Watershed Observations

Riparian Buffers Width
LB: Distance >25 feet 26-50 51-75 76-100 100+ ✓
Cover type: Tree ✓ Shrub ✓ Herbaceous ✓ Lawn Other:
Dominant Species: Liriodendron tulipifera, Acer rubrum

RB: Distance >25 feet 26-50 51-75 76-100 100+ ✓
Cover type: Tree ✓ Shrub ✓ Herbaceous ✓ Lawn Other:
Dominant Species: Acer rubrum, Nyssa sylvatica

Riparian Buffer Comments
Mid Successional Deciduous

Other Observations and Comments:

Is the reach perennial? ☐ **YES** ☒ **NO**

Photo #	Direction (US, DS, LB, RB)	Notes
1	Upstream	
2	Downstream	


LEGEND
PROJECT STUDY LIMITS (5.22 ACRES±)
WATERS OF THE U.S.
RESOURCE PROTECTION AREA (CITY OF RICHMOND GIS)
RESOURCE MANAGEMENT AREA (CITY OF RICHMOND GIS)
SCALE 1"=50'
0
50'
100
NOTES:
1 WATERS OF THE U.S. WITHIN THE PROJECT STUDY LIMITS HAVE BEEN GPS LOCATED BY TIMMONS GROUP.
2 WATERS OF THE U.S. IMPACTS WERE PERMITTED BY THE U.S. ARMY CORPS OF ENGINEERS UNDER NATIONWIDE PERMIT 18 (NAO-2012-0673).
3 PROJECT STUDY LIMITS ARE BASED ON A TIMMONS GROUP BOUNDARY SURVEY DATED 01/25/2010.
4 TOPOGRAPHIC MAPPING INFORMATION IS FROM A TIMMONS GROUP FIELD SURVEY PERFORMED ON 01/25/10.
5 THE PERENNIAL FLOW DETERMINATION AND RESOURCE PROTECTION AREA SHOWN ARE PRELIMINARY AND HAVE NOT BEEN CONFIRMED BY THE CITY OF RICHMOND
NORTH
BROAD ROCK CREEK
BROAD ROCK CREEK RMA (CITY OF RICHMOND GIS)
BROAD ROCK CREEK RPA (CITY OF RICHMOND GIS)
BAR1 REACH 1
SCORE: 30.5
RATING: INTERMITTENT
RMA
RPA
TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS
Site Development | Residential | Infrastructure | Technology
CEPHAS PROPERTY
CITY OF RICHMOND, VIRGINIA
PERENNIAL FLOW AND RPA DETERMINATION MAP
JOB NO 299.35
SHEET NO

Cephas Property
Richmond, Virginia
Site Photos

View of stream reach, upstream

View of stream reach, downstream.

APPENDIX 12

Distribution List

DISTRIBUTION LIST

Mr Steven VanderPloeg
United States Army Corps of Engineers
Norfolk District - Richmond Field Office
9100 Arboretum Parkway, Suite 235
Richmond, Virginia 23236

United States Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
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