Final Environmental Assessment

Berlin State-Run Psychiatric Hospital

Washington County, VT

FEMA-4022-DR-VT

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FEMA

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ENVIRONMENTAL ASSESSMENT
BERLIN STATE-RUN PSYCHIATRIC HOSPITAL

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Acronyms and Abbreviations

ACM	Asbestos Containing Material
ADA	Americans with Disabilities Act
APCD	Vermont Air Pollution Control Division
BGS	Vermont Department of Buildings and General Services
BMP	Best Management Practice
CEQ	Council on Environmental Quality
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
C.F.R.	Code of Federal Regulations
CMS	Centers for Medicare and Medicaid Reimbursement
CWA	CWA
DHP	Vermont Division for Historic Preservation
DMH	Vermont Department of Mental Health
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
GIS	Geographic Information System
JCAHO	Joint Committee on Accreditation of Health Care Organizations
LEED	Leadership in Energy and Environmental Design
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NESHAPS	National Emission Standards for Hazardous Air Pollution
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
NRCS	Natural Resources Conservation Service
PA	Public Assistance
RCRA	Resource Conservation and Recovery Act
SHPO	State Historic Preservation Officer
USACE	U.S. Army Corps of Engineers
USEPA	U. S. Environmental Protection Agency
USGBC	U.S. Green Building Council
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
UVM-CAP	University of Vermont Consulting Archeology Program
VCGI	Vermont Center for Geographic Information
VDH	Vermont Department of Health
VELCO	Vermont Electric Power Company
VEM	Vermont Emergency Management

VSA	Vermont Statutes Annotated
VSH	Vermont State Hospital
VTDEC	Vermont Department of Environmental Conservation
VTrans	Vermont Agency of Transportation
VTWMD	Vermont Waste Management Division
WSOC	Waterbury State Office Complex

1.0 INTRODUCTION

As a result of damages caused by Tropical Storm Irene between August 27 and September 2, 2011, the President declared a major disaster for the State of Vermont under the Robert T. Stafford Disaster Relief and Emergency Assistance Act. This major disaster declaration, referenced as FEMA-4022-DR-VT, authorizes the Federal Emergency Management Agency (FEMA) to provide Public Assistance (PA) to local governments, state agencies and eligible private non-profit organizations in all Vermont counties.

In response to Irene and the flooding within the Waterbury State Office Complex (WSOC), the State of Vermont took immediate action to relocate patients housed in the Vermont State Hospital (VSH) on the WSOC campus to alternate facilities around the state. As part of its overall patient care plans, the State of Vermont intends to apply for assistance under the PA Program to relocate the function of the state-run psychiatric hospital from the Waterbury State Office Complex to a new facility to be constructed in Berlin, VT (Appendix A, Figure 1).

FEMA has prepared this Environmental Assessment (EA) to meet its environmental review responsibilities under the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality's (CEQ) implementing regulations (40 C.F.R. Parts 1500 through 1508), and FEMA's implementing regulations (44 C.F.R. Part 10). FEMA is also using the EA to document compliance with other applicable federal laws and executive orders including: the Endangered Species Act (ESA); the Magnuson-Stevens Fishery Conservation and Management Act (MSA); the National Historic Preservation Act (NHPA); Executive Order (EO) 11988, Floodplain Management; EO 11990, Protection of Wetlands; and EO 12898, Environmental Justice.

The purpose of this EA is to analyze potential environmental impacts from the proposed project, and to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). Based on the analysis provided in this EA, and the fact that no public or agency comments were received during the duly warned comment period for the Draft EA, FEMA determines that the project will not significantly affect the human or natural environment and intends to issue a FONSI.

1.1 Disaster Background and Overview

Tropical Storm Irene struck on August 27, 2011 and caused the most severe flooding since the record flood of November 1927. Waterbury was one of the most severely damaged communities. Flood waters from the Winooski River reached an elevation of 428.5 feet above mean sea level, which is 2.5 feet above the 100-year flood level established by FEMA for the WSOC site. The flooding and loss of power required the evacuation of VSH patients during the disaster to other mental health facilities around the state. As of October, 2012, patients continue to be treated and housed elsewhere.

This proposed project involves the construction of a facility for treatment and rehabilitation of acutely mentally ill patients from the State of Vermont. This freestanding facility will provide 25 beds in an approximately 47,400 gross square foot one story building (Facility). Inpatient units, therapeutic, clinical, administrative, and support space will be located within the building.

A secure courtyard and a fenced recreation yard will allow patients to utilize exterior space year-round. The Town of Berlin is the proposed location for this new Facility. The project is being designed to meet US Green Building Council (USGBC) criteria for LEED Gold standards.

1.2 Purpose and Need

Since the closing of the 54-bed VSH, there have not been enough hospital beds to care for everyone who needs that care. People have waited long periods in hospital emergency rooms and/or have been turned away from care facilities. Currently, patients have been distributed throughout the State in hospitals and facilities that previously cared for other mental health patients. This has put a tremendous amount of pressure on the State's ability to care for the mental health community. In the State's efforts to relieve some of these pressures, the State has looked at a number of options including, but not limited to, renovations of existing facilities, development of new facilities, and utilization of existing facilities as temporary facilities to serve as temporary hospitals until the new state hospital facilities are completed. These options were reviewed and approved by the Administration and Legislature. Accordingly, the Department of Mental Health (DMH) and the Department of Buildings and General Services (BGS) have worked collaboratively to pursue the development of a 25-bed State-run psychiatric hospital (Facility) in central Vermont in close proximity to an existing hospital as a part of the proposed solution.

2.0 ALTERNATIVES CONSIDERED

The State of Vermont considered returning the services to facilities at the WSOC, as well as two potential locations in the Town of Berlin with three configurations for the proposed state hospital replacement: the Paine Turnpike site, Options 1 and 2, and the Fisher Road Site (Appendix A, Figures 2, 3, 4, 5, and 6).

2.1 Alternatives Analyzed and Dismissed

2.1.1 Return Vermont State Hospital to Waterbury State Office Complex

Returning the Vermont State Hospital to the WSOC is not considered a viable option by the State. The flood-damaged, 54-bed facility, located in Brooks and the adjacent Annex buildings, was antiquated and space restrictions limited its patient capacity and functionality. These buildings are also located within the 100-year floodplain of the Winooski River.

The VSH functions provided by Brooks and the Annex buildings are considered Critical Actions, and, therefore, FEMA regulations require floodplain management compliance to the 500-year flood elevation. Such a requirement would reduce patient space substantially, limit functionality on the lower floor, and make operating a psychiatric hospital here impractical. Construction of a new structure at this site to replace Brooks and the Annex would also require that the lowest finished floor be elevated above the 500-year floodplain. When weighing all of these factors, keeping the hospital facility at the WSOC was rejected by the State.

In response, the Vermont State Legislature has directed that other alternatives be selected. Act 40, enacted May 6, 2011, (H446) directed the DMH to continue planning for replacement of functions provided at the VSH in other locations. Act 79, enacted April 4, 2012, (H630) requires the construction of a 25-bed acute care in-patient hospital in central Vermont proximate to an existing hospital.

2.1.2 Paine Turnpike Site, Option 1 and 2

A public meeting was held by the Berlin Select Board and School Board to discuss the proposed locations for the state mental hospital on May 30, 2012 (Appendix A, Figure 3,). Three options were presented: Paine Turnpike Site, Options 1 and 2, and the Fisher Road site. At this meeting the Select Board, School Board and the public expressed strong opposition to the Paine Turnpike site and its two options for the facility placement on the site (Appendix A, Figures 4 and 5). In addition to the public opposition to the location, the site had environmental and cultural limitations. The site contains a large, Class 2 wetland, as classified under the Vermont wetland classification system. Encroachment into these wetlands or a 50-foot wetland buffer area would require a state wetland Individual Permit. Encroachment of more than 3,000 sq. ft. of wetland would require coverage under the U.S. Army Corps of Engineers' Programmatic General Permit. In addition, the entire site was deemed archaeologically sensitive by the Vermont Division for Historic Preservation (DHP) (Dillon, 2012; Appendix C-4). Option 2 would have required the demolition of potentially historically significant structures. Although such environmental and cultural constraints could have been mitigated, the additional investigation and permitting would have added significant time to the project schedule.

This alternative was rejected primarily based on public and municipal opposition.

2.2 Alternatives Evaluated Further

2.2.1 No Action Alternative

Under the No Action Alternative, DMH would continue to operate the current network of replacement facilities in an attempt to replace the functions of the VSH. What VSH did in one facility, it would now attempt to do at over 19 facilities distributed statewide. Despite this extensive network, it is important to note that currently the system does not have 54 acute care beds to replace the capacity lost at VSH when it flooded. Due to a shortage of viable facilities and capacity, on any given day the number of replacement beds is approximately 28, most of these are located at four Vermont psychiatric facilities: Brattleboro Retreat, Rutland Regional Medical Center, Fletcher Allen Health Care and Second Spring in Williamstown. Vermont's private medical institutions continue to bear the brunt of the lost State Hospital capacity for new acute psychiatric patients.

2.2.2 Proposed Alternative - Fisher Road Site

The State of Vermont proposes to construct a new state-run psychiatric hospital at the 7.4 acre Fisher Road site in Berlin, Vermont (N 44.22261, W -72.56506; Appendix A, Figures 1& 2). The Site is located near Central Vermont Medical Center and a complex of medical offices. The proposed new Facility will be comprised of a one story 47,400 gross square foot building with a capacity of 25 patient beds (Appendix A, Figure 6). It will include patient rooms, exam rooms, dining room, kitchen, exercise areas, nursing station, seclusion rooms, as well as administrative and support areas needed for the operation of the hospital.

Site improvements will also include a paved driveway and parking area with a capacity of approximately 101 vehicles, including four Americans with Disabilities Act (ADA) compliant spaces, sidewalks, outdoor lighting, fencing, electrical, water, and sewer services. This project (Project) will consist of demolishing and removing five existing residential and commercial structures, and one outbuilding, all built in the 1970s, removing existing site utilities and improvements, site preparation for installation of new site utilities, and site improvements in support of the new, single-story, mental health hospital.

3.0 AFFECTED ENVIRONMENTS AND POTENTIAL IMPACTS CONSIDERED

In the following section, the ***No Action Alternative*** consists of addressing patient needs through the continued use of existing medical facilities. There is little likelihood that use of any of these facilities, either individually or cumulatively, would adversely affect one or more of the environmental resources addressed in this EA. For this reason, no attempt has been made to identify the characteristics of the environments surrounding these critical facilities, with the exception of the relationship of the four primary facilities in use today and their eligibility for the National Register of Historic Places and proximity to a floodplain.

The ***Proposed Alternative*** may have a direct effect on the Fisher Road site (Site), and an indirect effect on the historic buildings that once housed the hospital on the WSOC, but whose function will be shifted to the new hospital. All of the WSOC buildings are located in the floodplain. Both the direct and indirect effects are addressed where appropriate.

Table 3.1 summarizes the effects described and analyzed in this chapter. Levels of potential effect are defined as follows:

* Negligible: The resource area would not be affected, or changes would be non-detectable or if detected, effects would be slight and local. Impacts would be well below regulatory limits.
* Minor: Changes to the resource would be measurable, although the changes would be small and localized. Impacts would be within or below regulatory limits. Mitigation measures may be necessary to reduce potential effects.
* Moderate: Changes to the resource would be measurable and have localized and potentially regional scale impacts. Impacts would be within or below regulatory limits, but historical conditions would be altered on a short-term basis. Mitigation measures may be necessary to reduce potential effects.
* Major: Changes would be readily measurable and would have substantial consequences on a local and potentially regional level. Impacts would exceed regulatory limits. Mitigation measures to offset the effects would be required to reduce impacts, although long-term changes to the resource would be possible.

Table 3-1.
PROJECT ALTERNATIVES: SUMMARY OF POTENTIAL EFFECT, COORDINATION AND MITIGATION APPLIED

Affected Environment/ Resource Area	Alternatives	IMPACT				Agency Coordination/ Permits	Mitigation/BMPs	Comments
		Negligible	Minor	Moderate	Major			
Geology	**No Action**	**X**						
	Proposed Action	**X**						No impacts to unique or protected geology.
Soils	**No Action**	**X**						
	Proposed Action		**X**			NPDES Construction General Permit 3-9020	NPDES Construction General Permit and compliance with VT Erosion Control Handbook	Site topography will be modified for the new facility. Short term impacts to soils will be possible during construction.
Vegetation	**No Action**	**X**						
	Proposed Action	**X**						No removal of sensitive plant species.
Wildlife	**No Action**	**X**						
	Proposed Action	**X**						Only the potential for limited, short-term disruption to wildlife patterns during construction.
Threatened and Endangered Species	**No Action**	**X**						
	Proposed Action	**X**						No federally listed threatened or endangered species in or near project area.
Floodplains	**No Action**	**X**						
	Proposed Action	**X**						Project is not located within a floodplain; no impact.

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Affected Environment/ Resource Area	Alternatives	IMPACT				Agency Coordination/ Permits	Mitigation/BMPs	Comments
		Negligible	Minor	Moderate	Major			
Wetlands	**No Action**	**X**						
	Proposed Action	**X**						The ditch on the property is a man-made ditch, and thus not a Class II wetland under the Vermont Wetland Rules.
Ground Water	**No Action**	**X**						
	Proposed Action	**X**						A portion of the Site is in a Groundwater Source Protection Area; activities at new facility will not compromise this area.
Archaeological Resources	**No Action**	**X**						
	Proposed Action	**X**				SHPO concurrence on ”No historic properties affected” 9/18/12	An Archaeological Phase 1 Site Identification Survey found no evidence of pre-contact Native American occupation.	The pine plantation on the western side of the Site was identified as potentially archaeologically sensitive.
Historic Buildings	**No Action**	**X**						
	Proposed Action	**X**				SHPO concurrence on ”No historic properties affected” 9/18/12		All structures were built in the 1970s and are not eligible for listing on the State or National Register of Historic Places.
Land Use and Zoning	**No Action**	**X**						
	Proposed Action	**X**				Berlin Zoning Permit Berlin Building Permit	The Facility has been designed to comply with the Berlin zoning ordinance, and the project will follow the Design Review Process.	A Zoning Application for the project was filed March 26, 2012.

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PROJECT ALTERNATIVES: SUMMARY OF POTENTIAL EFFECT, COORDINATION AND MITIGATION APPLIED

Affected Environment/ Resource Area	Alternatives	IMPACT				Agency Coordination/ Permits	Mitigation/BMPs	Comments
		Negligible	Minor	Moderate	Major			
Utilities	**No Action**	**X**						
	Proposed Action	**X**				Berlin Sewer Allocation City of Montpelier water system connection		Berlin sewer allocation was received 08-28-12.
Traffic and Parking	**No Action**	**X**						
	Proposed Action		**X**			VTrans/Berlin curb cut and utility road crossing; Parking requirements in Zoning Ordinance	Parking requirements in Zoning Ordinance addressed through installation of approximately 101 spaces including 4 ADA spaces.	Traffic patterns will change due to staff, visitor, and patient trips but level of change doesn't trigger requirement for a formal traffic study submitted to VTrans.
Potable Water, Wastewater, Stormwater	**No Action**	**X**						
	Proposed Action		**X**			NPDES Construction General Permit; Wastewater and Potable Water Supply Permit; Stormwater Permit; Water Supply Permit	USGBC LEED Gold standards for stormwater management	Project will result in increase in impervious area from the current level of development. Water Supply Permit needed for water main extension and hydrant line.
Air Quality	**No Action**	**X**						
	Proposed Action		**X**			Air Source Registration, if required; New Source and Operating Permit, if required	Compliance with applicable air pollution control regulations. Dust managed by the soil erosion measures and wetting during construction if necessary.	Heating systems may be air contaminant sources. Fuel type and system size dictate permit requirements. Creation of dust during construction may occur.

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PROJECT ALTERNATIVES: SUMMARY OF POTENTIAL EFFECT, COORDINATION AND MITIGATION APPLIED

Affected Environment/ Resource Area	Alternatives	IMPACT				Agency Coordination/ Permits	Mitigation/BMPs	Comments
		Negligible	Minor	Moderate	Major			
Noise	**No Action**	**X**						
	Proposed Action		**X**				Construction hours may be adjusted for exceptionally loud tasks, such as blasting. Construction equipment will comply with federal noise requirements.	There may be a temporary increase in noise during construction, otherwise noise levels will remain about the same as under current uses. The proposed site is surrounded by commercial land use.
Asbestos, Structural Debris, and Fuel Tanks	**No Action**	**X**						
	Proposed Action		**X**			USEPA notification for building demolition; VT WMD Solid Waste Rules; VT DEC UST Rules	Compliance with EPA NESHAPs and VT WMD Solid Waste Rules	Category IV USTs on Site will be removed by current landowner.
Hazardous Waste	**No Action**	**X**						
	Proposed Action	**X**						No hazardous waste on Site. Facility will not become a hazardous waste generator.
Seismic Safety	**No Action**	**X**						
	Proposed Action	**X**						Site is low risk for damaging earthquakes.
Socioeconomic Issues	**No Action**	**X**						
	Proposed Action	**X**						No disproportionate impacts to minority or low-income populations will occur.

Table 3-1.
PROJECT ALTERNATIVES: SUMMARY OF POTENTIAL EFFECT, COORDINATION AND MITIGATION APPLIED

Affected Environment/ Resource Area	Alternatives	IMPACT				Agency Coordination/ Permits	Mitigation/BMPs	Comments
		Negligible	Minor	Moderate	Major			
Climate Change	No Action	X						
	Proposed Action	X					USBGC LEED Gold standards	Compliance with new construction practices will result in minimal impacts to the climate.

3.1 Terrestrial and Biological Resources

Terrestrial resources combine to form a mosaic landscape. Factors related to geology, soils, vegetation and wildlife are considered during project development to determine if one or more actions could adversely affect one or multiple resources or upset the balance among them.

3.1.1 Geology

3.1.1.1 Affected Environment
Underlying bedrock geologic features significantly affect regional and local topographic variability, forest type, wildlife habitat, weather and have been exploited for mineral and building resources. The Site sits on the Waits River Formation, which is primarily limestone. There are no unique or protected geologic resources or geologic hazards in the project vicinity.

3.1.1.2 Environmental Consequences
None identified.

3.1.2 Soils

3.1.2.1 Affected Environment
Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture (USDA) recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland. The Farm Protection Policy Act (7 USC 4201) states, "the purpose of the Act is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses."

The Site is located in a once glaciated upland setting. The soil classification at the Site according to the National Resource Conservation Service (NRCS) on-line soil database (NRCS, 2012), is Cabot Silt Loam. The parent material is coarse loamy basal till and the soil drainage class is poorly drained.

3.1.2.2 Environmental Consequences
Cabot Silt Loam is considered a soil of statewide importance, but limited by wetness, not a Prime Agricultural Soil (NRCS, 2009). Site clearing and grading, as well as construction at the Site will disturb soils, so soil erosion and transport off-site could occur. Construction best management practices (BMPs) would be followed. The Facility design will include a stormwater management design that minimizes the potential for soil erosion and off-site transport of soils by stormwater runoff (Appendix A, Figure 6). USGBC LEED design guidance will be used for stormwater management. No adverse environmental consequences are anticipated.

3.1.3 Vegetation

3.1.3.1 Affected Environment
The site consists primarily of open lawns and mowed fields, houses, outbuildings, driveways and parking areas, with a small, recently-logged, pine plantation on the west side of the property. The adjacent property to the west consists of Pond Brook and its riparian vegetation. The

property to the north is an open field, and the property to the east is a complex of medical office buildings with maintained lawn and landscaping. (Appendix B).

3.1.3.2 Environmental Consequences
No disturbance or degradation of sensitive plant communities or habitats will occur, and no conflicts with applicable federal, state, or local regulations protecting native vegetation are anticipated (Appendices C-1, C-2).

3.1.4 Wildlife

3.1.4.1 Affected Environment
No lakes or fish bearing streams are located on the property. Small mammals may live on this developed property and game animals may pass through it.

3.1.4.2 Environmental Consequences
Short-term phases of construction and long-term re-development will have no significant effect on wildlife habitat. The natural functions of the site will not be significantly altered as a result of the proposed Project.

3.1.5 Threatened and Endangered Species

3.1.5.1 Affected Environment
The Vermont Department of Environmental Conservation (VTDEC) maintains a Geographic Information System (GIS) database for data of environmental interest and makes this data available through environmental interest mapping tools. The database was queried for wetlands, both state and federally listed rare, threatened and endangered species, and significant habitats. The resulting Environmental Interest Map is presented in Appendix C-1 (VTDEC, 2012a). The U.S. Fish and Wildlife Service (USFWS) maintains a list of federally listed rare, threatened, and endangered species (Appendix C-2) (USFWS, 2012).

3.1.5.2 Environmental Consequences
No state or federally listed rare, threatened or endangered species have been identified on the Site (USFWS, 2012; VTDEC, 2012a).

3.2 Aquatic Resources

The Site lies in an upland setting approximately 3/4ths of a mile from the Stevens Branch of the Winooski River, a 13-mile long major tributary that begins in Williamstown, flows through Barre, and enters the Winooski River in Berlin. The land between the Stevens Branch and the Site gradually rises 360 feet in elevation from the valley bottom.

Pond Brook, a much smaller tributary that feeds into the Stevens Branch, flows within 650 feet of the Site. Moving from the back of property, the landscape gently slopes down to the brook, dropping approximately 70 feet in elevation over the course of 650 linear feet. Pond Brook flows approximately 1 mile before joining with the Stevens Branch.

3.2.1 Floodplains

3.2.1.1 Affected Environment
Executive Order 11988 directs federal agencies to assume leadership in avoiding direct or indirect support of development in the 100 year floodplain. FEMA's National Flood Insurance Program (NFIP) publishes maps that identify areas at risk from flooding based on a 100-year and 500-year storm event.

3.2.1.2 Environmental Consequences
The project is not located within a designated floodplain as shown on the FEMA Flood Insurance Rate Map, Panel Number 500106 0008 B, effective as of August 15, 1984 (Appendix D).

3.2.2 Wetlands

3.2.2.1 Affected Environment
Executive Order 11990 requires federal agencies to avoid adverse impacts to wetlands to the extent possible. Section 404 of the Clean Water Act (CWA) establishes a wetland permit program administered by the U.S. Army Corps of Engineers (USACE). The Vermont Wetland Rules identify significant wetlands and regulate activities in and near these wetlands.

3.2.2.2 Environmental Consequences
A Vermont mapped Significant Wetland appeared to be present on the Site (Appendix C-1). A wetland delineation was performed to determine the location of this wetland in relation to the Site. In the opinion of the wetland scientist who performed the wetland delineation, the wetland on the property was a man-made ditch, and thus not a Class II wetland under the Vermont Wetland Rules. On September 6, 2012, Shannon Morrison, Regional Wetland Biologist of the VTDEC, visited the site and concurred with the opinion of the wetland scientist (Morrison, 2012) (Appendix C-3). The man-made ditch on the property is not a water of the United States subject to the permit requirements of the USACE.

3.2.3 Groundwater

3.2.3.1 Affected Environment
The VTDEC has adopted a Groundwater Protection Rule and Strategy to protect Vermont's groundwater resource (VTDEC, 2005). This rule provides for the establishment of Groundwater Source Protection Areas to protect public water supplies obtained from groundwater.

3.2.3.2 Environmental Consequences
A portion of the Site is in a Groundwater Source Protection Area (Appendix C-1). The Facility will be served by municipal water and sewer and no activities that would compromise groundwater quality are proposed at the Site. Therefore, no adverse consequences to groundwater quality will result from the project.

3.3 Cultural Resources

Cultural resources include properties of historical, cultural, and/or archaeological significance. The National Historic Preservation Act (NHPA) of 1966 defines a historic property as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register". Criteria for listing a property on the National Register of Historic Places are found at 36 C.F.R. Part 60. Two types of historic properties may be associated with the proposed Site: archaeological resources and historic buildings.

3.3.1 Archaeological Resources

3.3.1.1 Affected Environment

Native American communities have lived in present-day Vermont for approximately 11,000 years. Archaeological sites have been identified along the Winooski River and in its tributary drainages dating from the initial period of human migration into Vermont following retreat of the glaciers. Little is known about Native American use of the uplands around Berlin, VT.

Much of the Site has been modified by former grading and excavating related to the construction of residential structures and outbuildings. Site preparation for the Facility can be anticipated to include removal of the residences and ancillary buildings, grading, installation of utilities, construction of parking areas and other activities that will modify the top few feet of soil within much of the site. Archaeological remains at this site would be expected to be located at such depths.

Based on a preliminary field inspection by Scott Dillon, Survey Archaeologist for the DHP, the entity for the State Historic Preservation Officer (SHPO), the Site was deemed archaeologically sensitive (Dillon, 2012, Appendix C-4). A Phase 1 Site Identification Survey was recommended to determine if any pre-contact era Native American sites were present.

3.3.1.2 Environmental Consequences

The University of Vermont's Consulting Archaeology Program (UVM-CAP) conducted an archaeological site identification survey on July 25-26, 2012. No evidence of an archaeological site was found (Appendix C-5). FEMA has reviewed the report prepared by UVM-CAP on August 10, 2012 and the subsequent concurrence letter prepared by the DHP on September 18, 2012 (Peebles, 2012; Appendix C-5). Under the provisions of Section C.III.2 of the Programmatic Agreement among FEMA, Vermont Division for Historic Preservation and Vermont Emergency Management (FEMA, 2011), FEMA made a determination of "no historic properties affected" in accordance with 36 CFR § 800.4(d)(1). The DHP concurred with this determination (Peebles, 2012).

3.3.2 Historic Buildings

3.3.2.1 Affected Environment

No Action Alternative – The Brattleboro Retreat, one of the temporary patient care facilities, is listed on the National Register of Historic Places; all other currently utilized medical facilities are modern. No alteration of any of these facilities is anticipated as a result of patient placement.

Proposed Alternative – The Site consists of five contiguous parcels of land, with a residential or small commercial structure on each, and an undeveloped parcel.

In addition to the direct effects, the indirect, reasonably foreseeable, and cumulative effects on historic properties need to be considered. Following Irene, the State took immediate steps to relocate the VSH patients housed in Brooks Building on the WSOC to alternate facilities and found temporary locations for staff who used offices in Admissions (also known as the old Storehouse), Dale, 4 North, 5 North and Hanks. All of these buildings have been determined to be historic, i.e., eligible for inclusion on the National Register of Historic Places. As FEMA assistance applied to these buildings may be a connected action with the proposed Facility through an improved or alternate project, the disposition of these historic buildings must also be considered.

3.3.2.2 Environmental Consequences

No Action Alternative - Because no alteration of any of the facilities is anticipated as a result of patient placement, this alternative will have no effect on historic properties.

Proposed Alternative - Devin Colman, Historic Preservation Review Coordinator and Architectural Historian, conduced a Site visit in July, 2012. All structures appear to have been built in the 1970s and are less than fifty years old (Appendix B – Photographs). As such, they are not eligible for listing on the State or National Register of Historic Places.

With respect to the buildings currently located adjacent to the Site in Berlin, no further FEMA-SHPO consultation is required under the NHPA and 36 C.F.R. Part 800. In addition, the DHP reviewed this proposed undertaking for the purposes of 22 V.S.A. Chapter 14, the Vermont Historic Preservation Act, on behalf of the Vermont Advisory Council for Historic Preservation and concluded that no further action is required (Appendix C-5).

The disposition of former VSH facilities on the Waterbury campus has not yet been determined, although demolition, repair and partial reoccupation to serve other than psychiatric functions are being considered. Once final decisions are made, the environmental and historic reviews of these properties will be conducted under the *Final Environmental Assessment, Waterbury State Office Complex* (FEMA, 2012) and *Secondary Programmatic Agreement Among the Federal Emergency Management Agency, Vermont State Historic Preservation Officer, Vermont Agency of Transportation and Vermont Department of Buildings and General Services, Regarding Potential Undertakings at the Waterbury State Office Complex, Waterbury, Vermont* (FEMA, 2012b).

3.4 Land Use and Zoning

3.4.1 Affected Environment

The properties that will constitute the Site include four residential lots, one commercial lot, and one undeveloped lot. The commercial lot on the Site is a small office building (Appendix B). The surrounding area is a center for medical services. Central Vermont Hospital and two medical office complexes front on Fisher Road, so the addition of the Facility would be

consistent with current land use. This area is zoned commercial by the Town of Berlin. A hospital is a permitted use in this zoning district (Berlin, 2012).

3.4.2 Environmental Consequences

The facility has been designed to comply with the Town of Berlin zoning ordinance. The project will follow the Design Review Process specified by the Town. A zoning application for the project was filed March 26, 2012. The application will be updated with the most recent plan for the Facility during the Design Review process (Appendix A, Figure 6). Therefore, the project will be consistent with existing land use and the local land use and development requirements.

3.5 Infrastructure

3.5.1 Utilities

3.5.1.1 Affected Environment

The Site will be serviced by municipal water and sewer. A sewer allocation has been granted by the Town of Berlin (Appendix C-6). Municipal water will be provided by the City of Montpelier. Public services and utilities are available for this Site. Electricity is provided by Green Mountain Power Corporation. A right-of-way belonging to Vermont Electric Power Company (VELCO), the state's transmission utility, crosses the property. Police protection is provided by the Town of Berlin. Berlin Volunteer Fire Department and Berlin Emergency Service, a volunteer rescue squad, provide fire and rescue services.

3.5.1.2 Environmental Consequences

All utilities are readily accessible. The current layout has a service road and stormwater detention pond extending into the VELCO right-of-way. These impacts to the right-of-way are an acceptable use with utility approval.

3.5.2 Traffic and Parking

3.5.2.1 Affected Environment

The Vermont State Hospital will operate with the three shifts per day, 42 employees per shift, for patient care; and 42 additional employees who work from 8:00 AM to 4:30 PM. Shift changes will occur from 6:30 – 7:00 AM, 2:30-3:00 PM, and 10:30 – 11:00 PM. In addition, the facility will generate a limited number of non-employee related trips including patient arrivals and departures (1-2 per week), patient visitors (2-3 per day), and patient representatives (1-2 per day). The shift changes do not occur during the peak hour for traffic in the vicinity of the facility. The arrival and departure times for the 8:00 AM to 4:30 PM workers do occur during the peak hour 7:15-8:15 AM and 4:30 – 5:30 PM peak hours (RSG, 2012).

3.5.2.2 Environmental Consequences

A traffic assessment requested by BGS estimated that the facility would generate 55 AM and 55 PM peak hour trips (RSG, 2012, Appendix F). A trip distribution analysis for nearby intersections showed that this number of trips would not have a significant effect. The Vermont Agency of Transportation (VTrans) uses a threshold of 75 peak hour trips to require a traffic study. Therefore, the estimated increase in peak hour trips is well below this threshold. The local

zoning ordinance requires sufficient parking and, as a consequence, approximately 101 parking spaces, including 4 ADA spaces, will be installed at the Site.

3.5.3 Potable Water, Wastewater, Stormwater

3.5.3.1 Affected Environment

No water resources are present on the Site. The nearest surface water is Pond Brook which is located west of the Site. Vermont administers the federal Clean Water Act (CWA) and the Vermont Water Quality Regulations. Surface water runoff will increase due to the increase in impervious area from the current level of development. Water quality is protected by compliance with the conditions of the discharge permits issued by the VTDEC. A "Stormwater Discharge from New Development and Redevelopment General Permit" is required for discharges of stormwater from new development projects equal to or greater than one (1) acre or discharge from expansion or redevelopment of an existing impervious surface. A "Construction Stormwater Permit" addresses stormwater runoff from earth disturbance activity of one (1) or more acres of land during construction.

3.5.3.2 Environmental Consequences

The Facility will be covered under a Water Supply Permit. Potential adverse effects from the increase in impervious area will be mitigated by the on-site USGBC LEED Gold Standard stormwater management system and compliance with the conditions listed in the "Stormwater Discharge from New Development and Redevelopment General Permit" for any off-site conveyance of stormwater. Coverage of construction under the "Construction General Permit" will mitigate water quality impacts during construction. The facility will be connected to the municipal sewer system and a Sewer Allocation has been received from the Town of Berlin (Appendix C-6).

3.6 Potential Hazards

3.6.1 Air Quality

3.6.1.1 Affected Environment

Air quality in Vermont is regulated by the Air Pollution Control Division (APCD) of the VTDEC. APCD enforces both state and federal air quality regulations including the Clean Air Act (CAA) of 1990 and Amendments, and the Vermont Air Pollution Control Regulations (VTDEC, 2011a). The heating load for this building is anticipated to be approximately 3,060 MBH. BGS is currently considering two options for heating the building. Option 1 will utilize two 2,000 MBH propane fired non-condensing boilers as the primary means of creating hot water. Option 2 will utilize two 1,700 MBH wood chip-fired (or wood pellet-fired) boilers as the primary means of creating hot water. With option 2 there will also be a propane-fired non-condensing boiler provided as a back-up in case of a single boiler failure or failure of the wood chip supply system. Each boiler will have one primary pump matched with the boiler. Subchapter IV of the regulations sets out the requirements for Classification of Air Contaminant Sources, and source registration and operating permits and Subchapter V sets forth requirements for Review of New Contaminant Sources. Section 5-401 of the Regulations classifies fuel burning installations based on the fuel source (VTDEC, 2011a).

3.6.1.2 Environmental Consequences
Once the heating Option has been decided, the air contaminant source registration and permit requirements, if any, will be determined. Compliance with the Air Pollution Control Regulations will protect air quality.

3.6.2 Noise

3.6.2.1 Affected Environment
There may be a temporary increase in noise during construction, otherwise noise levels will remain about the same as under current uses. The proposed site is surrounded by commercial land use. The Town of Berlin does not have a noise ordinance (Berlin, 2012).

3.6.2.2 Environmental Consequences
Temporary increase in noise during construction will be mitigated by limiting operating hours. No permanent increase in ambient noise will occur as a result of construction of the Facility at the Site.

3.6.3 Asbestos, Structural Debris, and Fuel Tanks

3.6.3.1 Affected Environment
Existing structures on the Site will need to be demolished for construction of the new Facility. Also, the land owner has indicated that there are two 1,000 gallon underground storage tanks for fuel oil on the property which he will remove prior to the property transfer.

The Vermont Asbestos Rules require an asbestos inspection to determine if there are any asbestos containing materials (ACM) present before any building demolition (18 V.S.A. Chapter 26). If so, federal National Emission Standards for Hazardous Air Pollution (NESHAPS) regulations require notification to the Vermont Department of Health (VDH) and USEPA ten (10) working days prior to building demolition. BGS will be responsible for this inspection. Building demolition materials must be disposed of according to the Vermont Solid Waste Rules (VTDEC, 2012c).

Underground storage tanks for home heating fuel or gasoline less than 1,100 gallon capacity are considered Category IV tanks and are not regulated, but permanent closure must be performed according to the closure requirements in compliance with Section 8-604 of the Underground Storage Tank Rules (VTDEC, 2011b).

3.6.3.2 Environmental Consequences
Compliance with the applicable rules for asbestos inspection, demolition debris disposal, and underground tank removal will mitigate the potential for adverse effects.

3.6.4 Hazardous Waste

3.6.4.1 Affected Environment
Hazardous materials are regulated by both the federal and state governments. The two main laws that pertain to hazardous materials are Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA).

CERCLA was enacted in 1980 and amended in 1986. It was created to regulate activity on closed and abandoned hazardous waste sites, determine liability for releases of hazardous materials at abandoned sites, and provide a funding mechanism for the cleanup of hazardous waste sites. CERCLA also established the National Priority List (NPL) which is a database of sites with known or suspected releases of hazardous materials (USEPA, 2012a). RCRA was enacted in 1976 and amended in 1984 and regulates the generation, transportation, storage, and disposal of hazardous materials. It also set up a framework for the designation and classification of hazardous materials. In Vermont, RCRA generators are regulated by the VTDEC Waste Management Division (VTWMD).

3.6.4.2 Environmental Consequences

There are no CERCLA hazardous waste sites in the Town of Berlin (USEPA, 2012a). No state hazardous waste sites are identified on the Site (Appendix E). Three state hazardous waste sites resulting from petroleum contamination are identified in the vicinity of the Site; however, two of them have been closed and the third is being monitored and presents no threat to the Site (VTDEC, 2012b). These sites will have no adverse impact on the Site. The Facility will not include laboratory facilities, so it will not be a generator of hazardous waste.

3.6.5 Seismic Safety

3.6.5.1 Affected Environment

EO 12699 directs federal agencies to incorporate cost-effective seismic safety measures in all new buildings that are constructed, leased, assisted, or regulated by the federal government.

3.6.5.2 Environmental Consequences

The area around Berlin, Vermont, has relatively low risk for damaging earthquakes, so concern about seismic activity for this Facility is low.

3.7 Socioeconomic Issues

3.7.1 Affected Environment

EO 12898 is the Executive Order regarding Environmental Justice in Minority Populations. This requires federal agencies, departments, and their contractors to consider any potentially disproportionate human health or environmental risks to minority or low income populations posed by their activities, policies, or programs.

3.7.2 Environmental Consequences

Based on 2010 Census, the population of Washington County is 98.1% white; 1.2% black or African American; 1.0 % American Indian or Alaska native; 1.1% Asian; and 0.4% other. There is not a significant minority of poor populations in Washington County. The median family income is $66,968. 3.3% of the population receives cash public assistance; and 8.8% of the population is eligible for food stamps. 78.9% of the population is 18 years of age or older. (U.S. Census Bureau, 2010). Thus construction of the Facility in the Town of Berlin will not have a disproportionate effect on minority or poor populations.

3.8 Climate Change

3.8.1 Affected Environment

The CEQ has issued a draft NEPA guidance document encouraging federal agencies to include the consideration of the effects on greenhouse gas emissions and climate change in their evaluations of proposals subject to NEPA documentation (CEQ, 2010).

3.8.2 Environmental Consequences

The Facility is being designed to meet USGBC LEED Gold criteria. These criteria apply to building materials, insulation, heating and cooling, water use reduction, light pollution reduction, stormwater management, and renewable energy. Following the LEED criteria will assure that the Facility has minimal impact on greenhouse gas emissions and climate change.

3.9 Cumulative Effects

Cumulative effects are those that result from the incremental effect of the Alternative Actions when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other action (40 C.F.R. 1508.7).

3.9.1 Affected Environment

The DMH is already under legislative mandate to replace the former VSH at the WSOC. The current temporary replacement system is not practical, nor sustainable. The proposed Site and Facility meet the legislative mandates and the Facility will be constructed in an area which already contains a prominent medical facility.

In the wake of the Irene flooding, other providers have stepped up to serve the current residents of the hospital, but none of these providers were prepared to care for those patients indefinitely. The VSH served the highest need patients in the system, so called "Level I" patients. These patients tend to be the hardest to care for, typically because of challenging behaviors. They are the patients most likely to be aggressive or violent, and do not fare well in crowded environments with other patients.

3.9.2 Environmental Consequences

No Action Alternative - The current No Action Alternative is unsustainable. The lack of capacity has required the state to seek alternative placements for many people in need of service, and has resulted in people who request hospital services being turned away. Since the flood, every month 10-20 people have had to be held in emergency rooms awaiting a bed in a psychiatric hospital. Until the Facility can open and relieve the pressure for the State's mental healthcare needs, the State's mental health system remains in crisis.

Proposed Alternative - Construction of the Facility at the Site would provide 25 critical care beds in central Vermont. This Facility, in addition to other regional facilities called for in Act 79, would provide a mental health care system adequate for the needs of Vermont patients. Thus, the cumulative impact from construction of the Facility would be positive.

4.0 AGENCY COORDINATION AND PERMITS

All required state and local permits will be obtained for the Project. A list of all the required permits identified to date is included in Appendix G. Once completed, the Facility will be licensed as a hospital in the state by the VDH, and the local Board of Health. In order to participate in Medicare and Medicaid reimbursement, the hospital must also apply to the Centers for Medicare and Medicaid Services (CMS) to be an eligible hospital provider. The hospital may then seek to be accredited by the Joint Commission on Accreditation of Health Care Organizations (JCAHO). JCAHO accreditation surveys may also be used in order that the hospital can be "deemed" as a certified provider by CMS as well.

The Facility must also continue to meet all applicable state Fire Safety and Occupational Health and Safety standards or requirements.

5.0 PUBLIC INVOLVEMENT

The public has been intimately involved as plans for the proposed state-run psychiatric hospital have been reviewed in legislative, agency and community venues. More recently, FEMA solicited public comment on the proposed facility.

5.1 Legislative Hearings

In light of the closure of the Waterbury VSH, DMH put forth a proposal at the beginning of the 2012 Legislative session for the re-building of a 15 bed state-run facility and the development of increased capacity at general hospitals, residential programs, crisis beds, and peer-run outreach and community support. During the legislative session, the House committees on Human Services, Corrections and Institutions, and Appropriations, as well as the Senate committees on Health and Human Services, Institutions, Appropriations, and Government Operations took testimony from the DMH and the Administration. In addition, each of the committees referenced above solicited public testimony and input on DMH's proposal (H. 630) during the House, Senate, and conference committee meetings focused on review of the bill. A public hearing was held on January 24th, 2012 to solicit input and feedback on every element of the DMH proposal and the bill that was created based on H. 630.

5.2 Public Consultation

5.2.1 Town of Berlin

A public meeting was held by the Berlin Select Board and School Board to discuss the proposed locations for the state mental hospital on May 30, 2012. The Agency of Administration, BGS, and DMH, participated in this meeting regarding the need for a hospital and two possible site placement options for the new facility in the Town. Overwhelming support for the Fisher Road alternative was voiced by the community members.

5.2.2 Mental Health Advocacy Groups

Throughout the design process for the Facility, the architectural design team and BGS have met with DMH and advocacy groups for past and present mental health patients. Over ten programming and design meetings were held during the summer of 2012 with the New State Hospital Work Group, which includes individuals from the National Alliance on Mental Illness and local peer groups such as Vermont Psychiatric Survivors. The resulting design (Appendix A, Figure 6) reflects the input of these groups.

5.2.3. FEMA Public Notice and Request for Comment

The Proposed Action and the availability of the Draft EA were publicized in a Public Notice in *The Times Argus* and *The Waterbury Record* on October 19, 2012. Hard copies of the draft EA and supporting documents were made available for public review at the Town Clerk's Offices in Berlin and the Waterbury Town Library; digital versions were posted on the FEMA, VEM and DMH websites by October 19. No substantive comments are received during the subsequent 15-day comment period that closed on November 2, 2012. The Draft EA has been updated and becomes the Final EA. The initial Public Notice will serve as the final Notice.

6.0 LIST OF PREPARERS

This document was prepared by:

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www.johnsonco.com

FEMA, Environmental-Historic Preservation Section
DR-4022-VT JFO
30 Allen Martin Drive
Essex, VT 05452

7.0 REFERENCES

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8.0 APPENDICES

Appendix A Figures

Figure 1	Site Location Map
Figure 2	Vermont Orthophoto Fisher Road Site
Figure 3	Vermont Orthophoto Fisher Road and Paine Turnpike Sites
Figure 4	Paine Turnpike Option 1
Figure 5	Paine Turnpike Option 2
Figure 6	Fisher Road Schematic Design

Appendix B Photographs
Site Photographs

Appendix C Environmental and Cultural Resources
C-1 Environmental Interest Map, VT Department of Environmental Conservation
C-2 Federally Listed Rare and Threatened Species in Vermont
C-3 Morrison e-mail re: Wetland, September 10, 2012
C-4 Dillon e-mail re: archaeological sensitivity, June 27, 2012
C-5 Vermont State Historic Preservation Officer Response, September 18, 2012
C-6 Town of Berlin Sewer Allocation Application, August 27, 2012

Appendix D FEMA Floodplain Map
FIRMette for Fisher Road, Berlin, Washington County, Vermont

Appendix E Public Health and Safety
Vermont Hazardous Sites Map, VT Department of Environmental Conservation

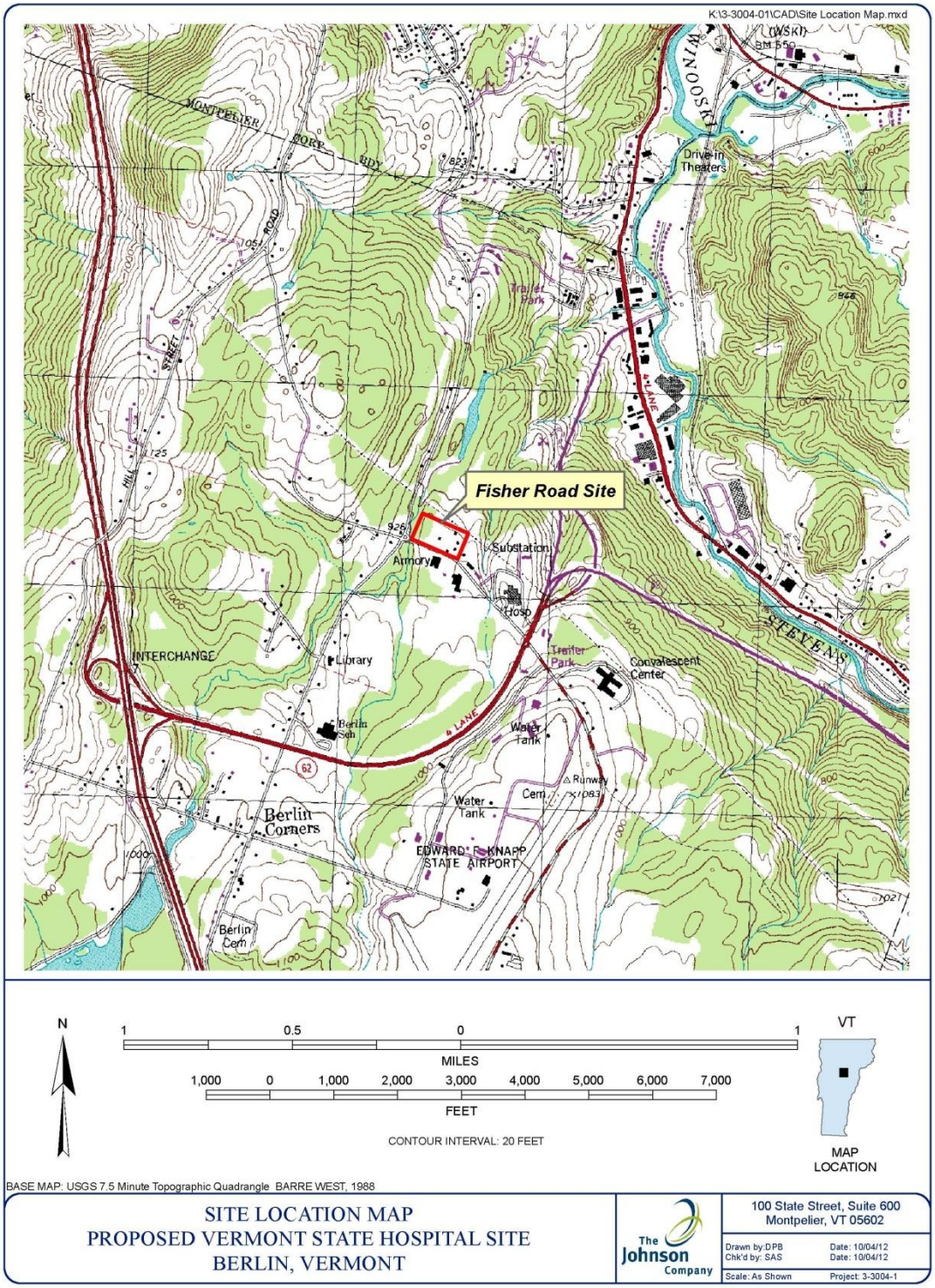
Appendix F Traffic Analysis Supporting Documents
RSG Preliminary Traffic Analysis, September 27, 2012

Appendix G Permits and Other Supporting Documents
Permit List, Grenier Engineering, P.C., September 27, 2012

APPENDIX A

FIGURES

Figure 1



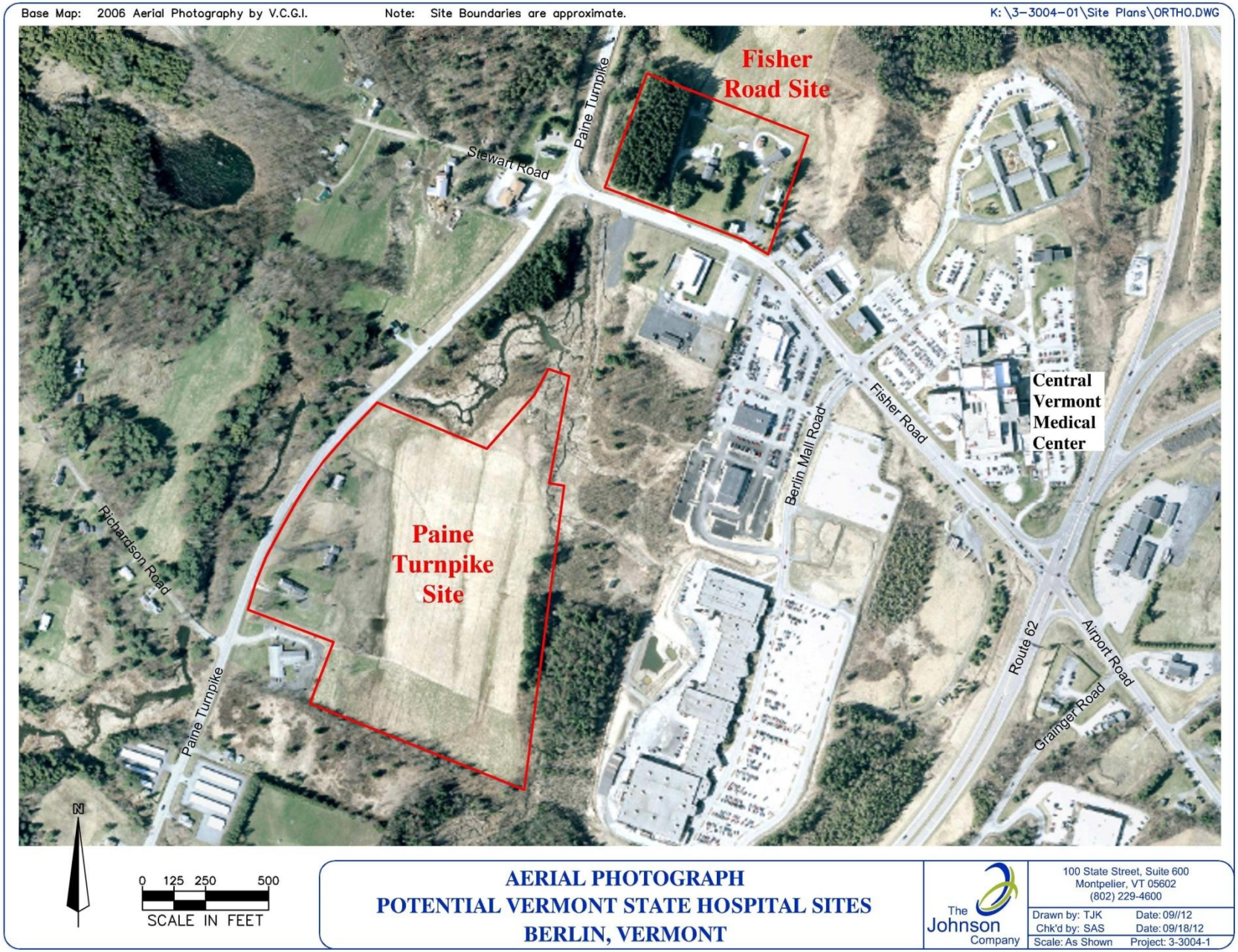
SITE LOCATION MAP
PROPOSED VERMONT STATE HOSPITAL SITE
BERLIN, VERMONT

The Johnson Company

100 State Street, Suite 600
Montpelier, VT 05602

Drawn by: DPB Date: 10/04/12
Chk'd by: SAS Date: 10/04/12
Scale: As Shown Project: 3-3004-1

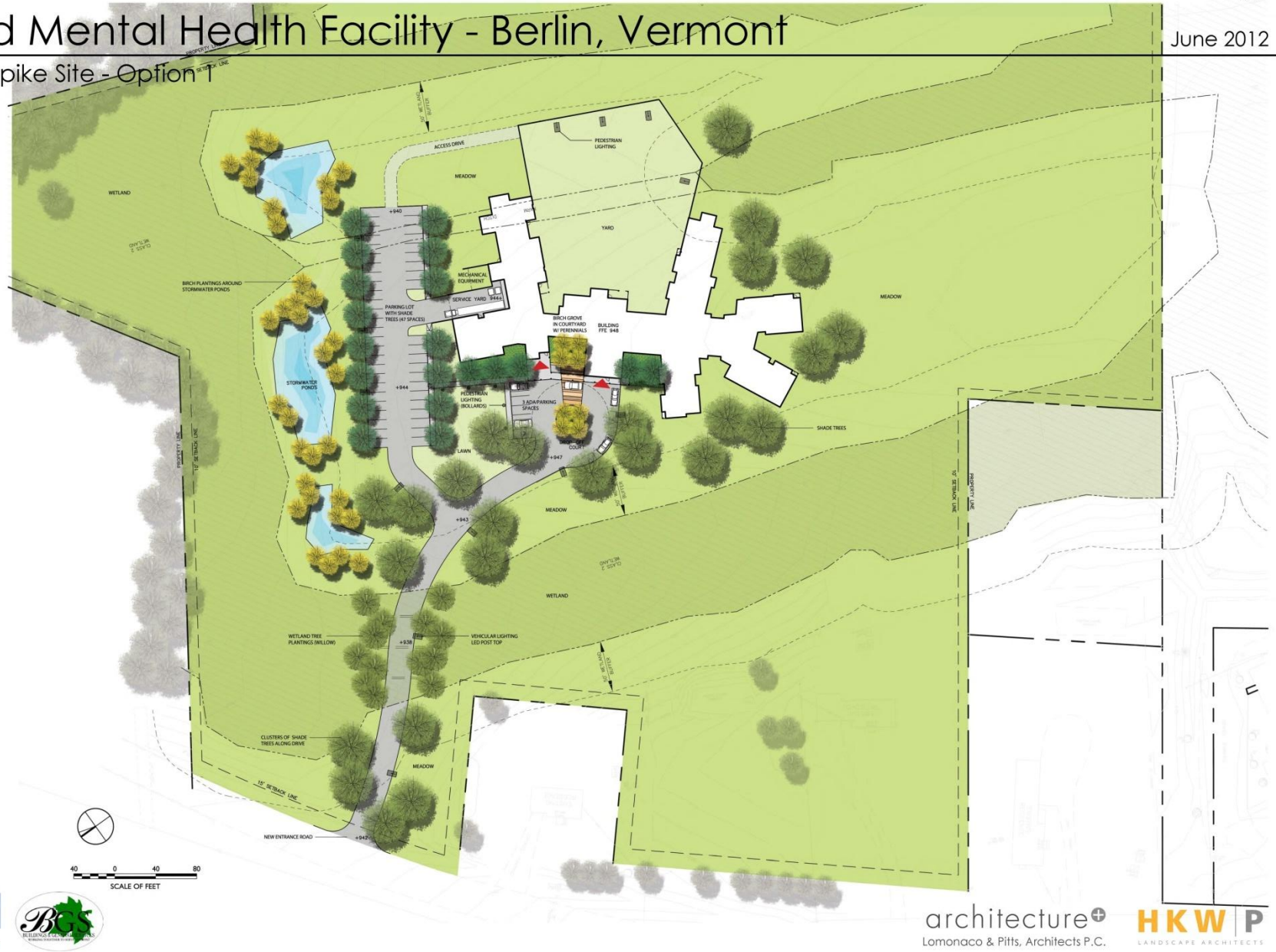

Base Map: 2006 Aerial Photography by V.C.G.I.
Note: Site Boundary is approximate.
K:\3-3004-01\Site Plans\ORTHO.DWG
Fisher Road Site
Paine Turnpike
Stewart Road
Berlin Mall Road
Fisher Road
Central Vermont Medical Center
Route 62
N
0 75 150 300
SCALE IN FEET
AERIAL PHOTOGRAPH
PROPOSED VERMONT STATE HOSPITAL SITE
FISHER ROAD SITE, BERLIN, VERMONT
The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602
(802) 229-4600
Drawn by: TJK Date: 09/18/12
Chk'd by: SAS Date: 09/18/12
Scale: As Shown Project: 3-3004-1


Base Map: 2006 Aerial Photography by V.C.G.I.
Note: Site Boundaries are approximate.
K:\3-3004-01\Site Plans\ORTHO.DWG
Fisher Road Site
Paine Turnpike
Stewart Road
Central Vermont Medical Center
Fisher Road
Berlin Mall Road
Paine Turnpike Site
Richardson Road
Paine Turnpike
Route 62
Airport Road
Grainger Road
N
0 125 250 500
SCALE IN FEET
AERIAL PHOTOGRAPH
POTENTIAL VERMONT STATE HOSPITAL SITES
BERLIN, VERMONT
The Johnson Company
100 State Street, Suite 600
Montpelier, VT 05602
(802) 229-4600
Drawn by: TJK Date: 09//12
Chk'd by: SAS Date: 09/18/12
Scale: As Shown Project: 3-3004-1

25 Bed Mental Health Facility - Berlin, Vermont

June 2012

Paine Turnpike Site - Option 1



Department of Mental Health

architecture
Lomonaco & Pitts, Architects P.C.

HKW P
LANDSCAPE ARCHITECTS

25 Bed Mental Health Facility - Berlin, Vermont

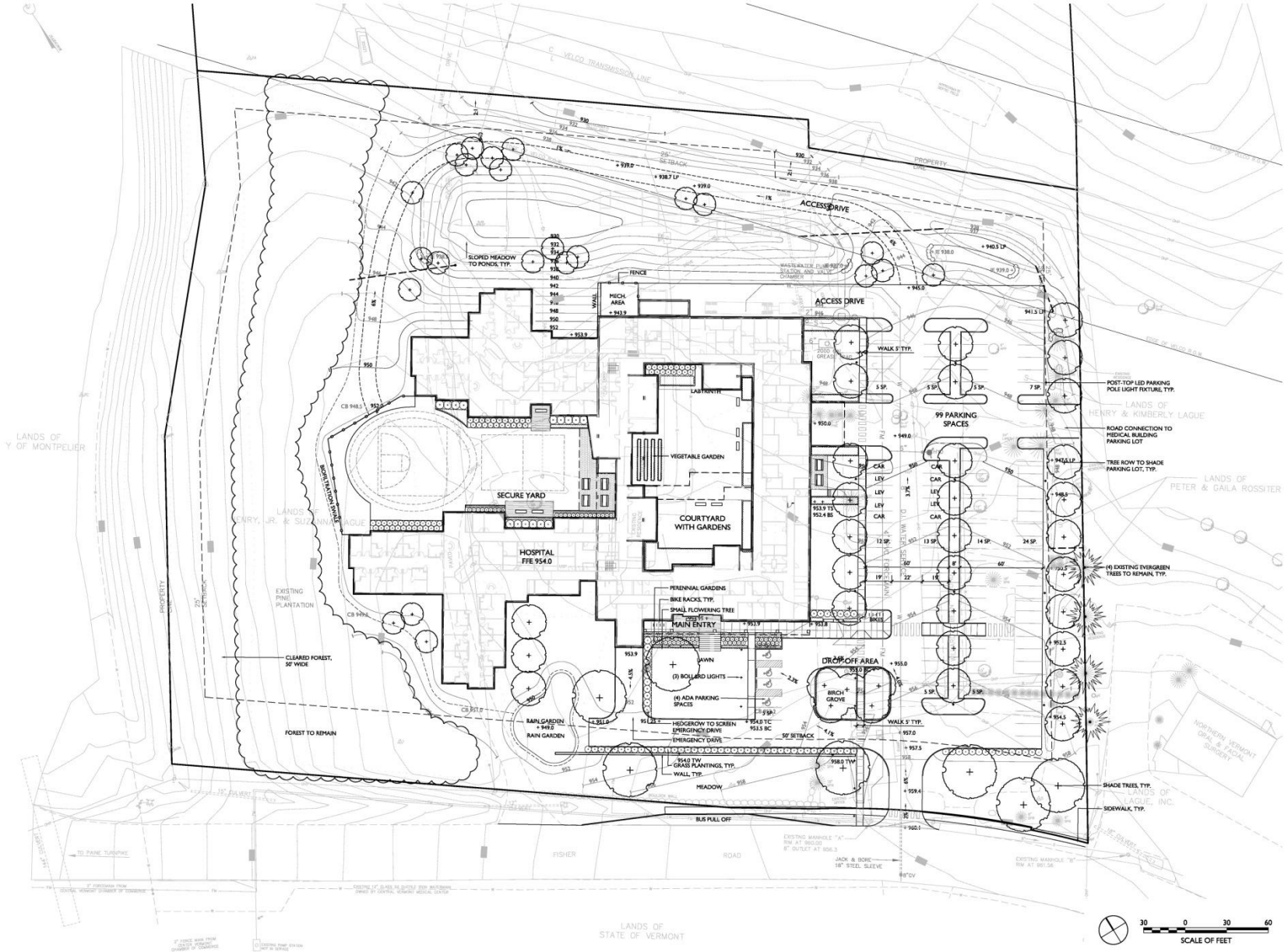
June 2012

Paine Turnpike Site - Option 2

Department of Mental Health

architecture Lomonaco & Pitts, Architects P.C.

HKW | P LANDSCAPE ARCHITECTS



HKW|P
LANDSCAPE ARCHITECTS
H. KEITH WAGNER | PARTNERSHIP
7 Marble Avenue, Burlington VT 05401 T 802.864.0010

VERMONT STATE HOSPITAL

SITE PLAN

REVISIONS

DRAWING NO.

JOB NO. 224

SCALE 1" = 30'

DATE 09.27.12

L1.0

APPENDIX B

SITE PHOTOGRAPHS


Map
Building 6
Building 5
Building 4
Building 3
Building 2
Building 1
Willard Bean Rd
340
Fisher Rd
Fisher Rd
250
22

Building 1

Building 2

Building 3

Building 4

Building 5

Building 6

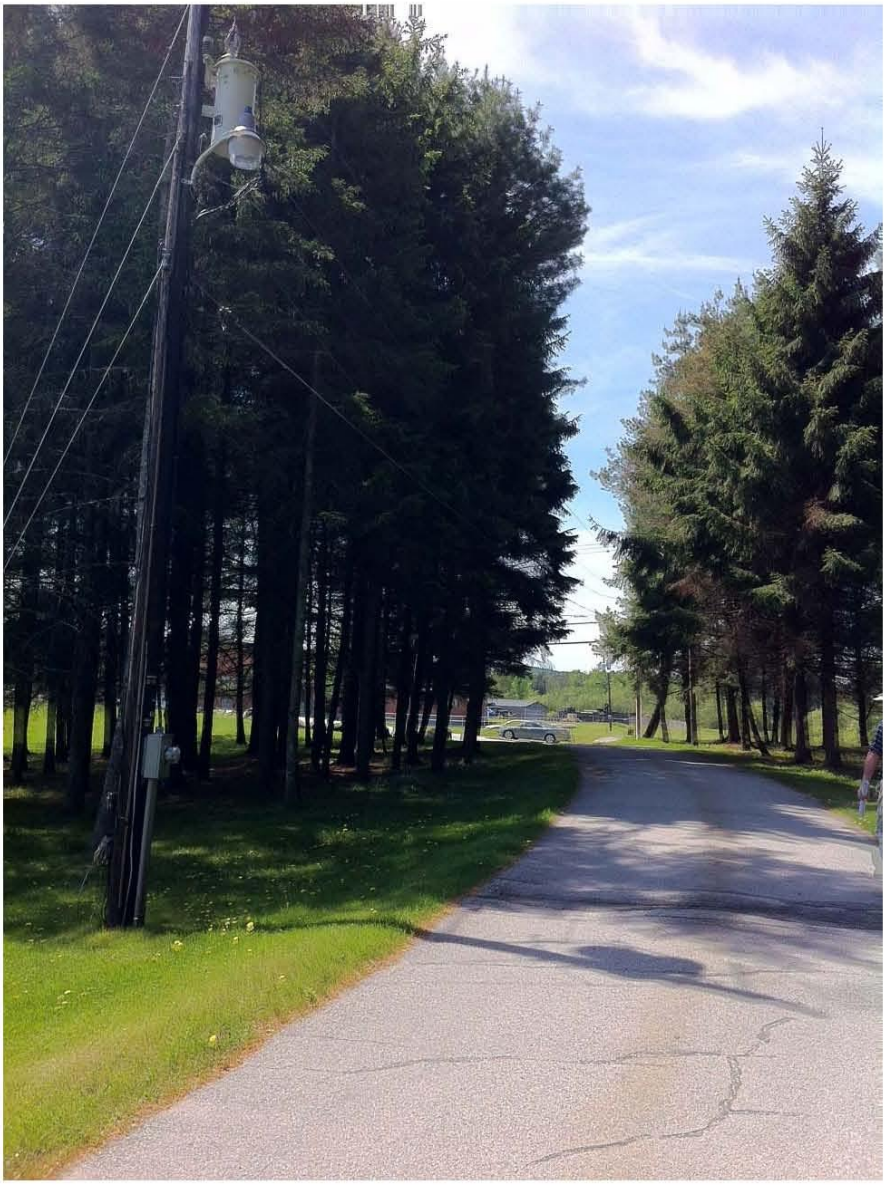
100 ft in from east curb cut looking west

At Fisher Road setback looking south

VELCO right-of-way looking southwest

In pine grove looking east

West curb cut facing east



West curb cut facing northeast

APPENDIX C

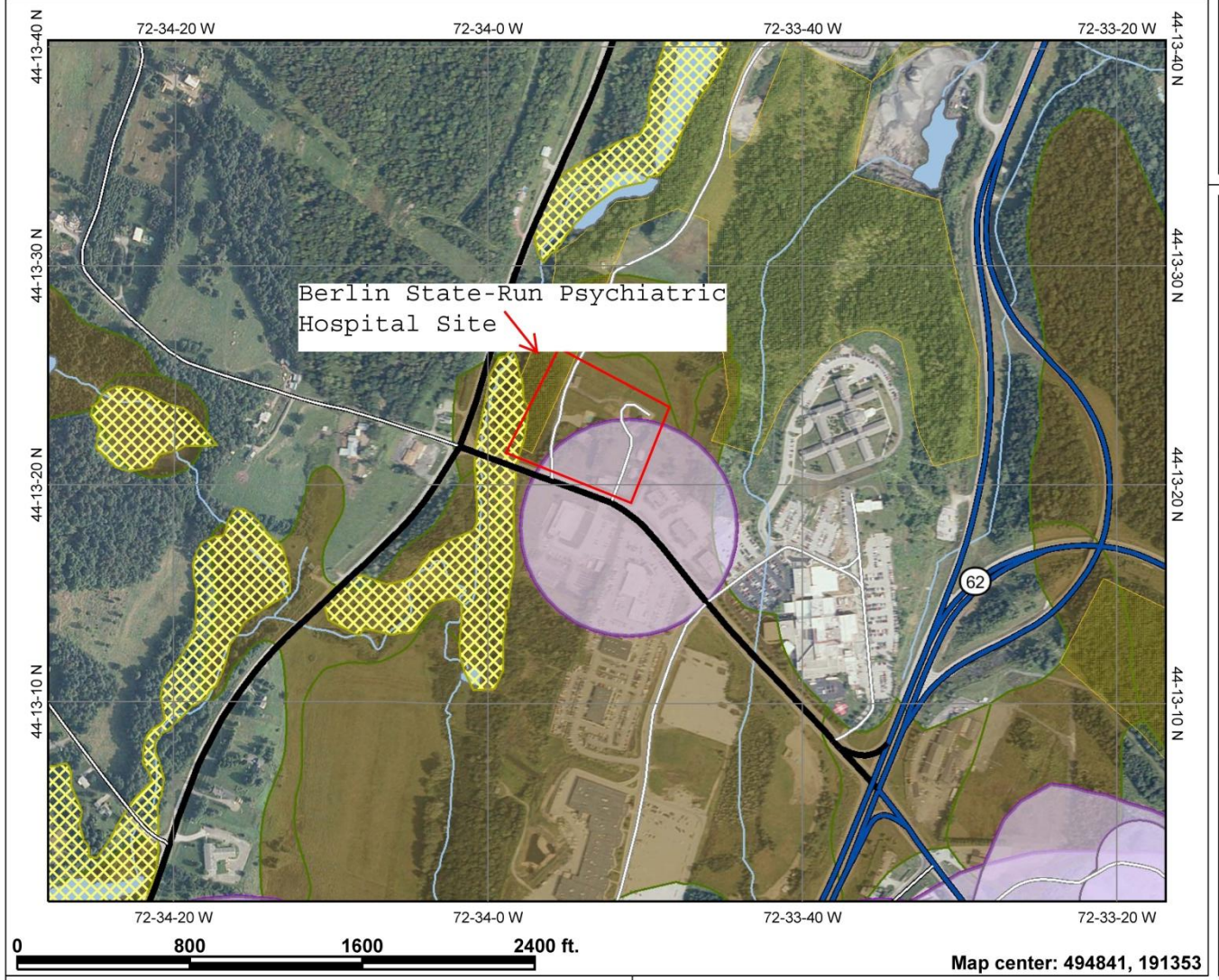
ENVIRONMENTAL AND CULTURAL RESOURCES

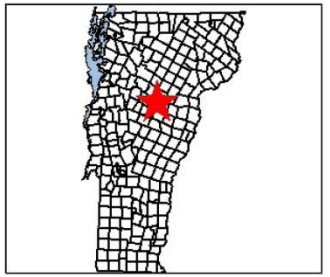
ANR Environmental Interest Locator

VERMONT

Vermont Agency of Natural Resources (ANR)

Environmental Interest Map - Berlin, VT





Legend

Roads
- US Highway
- Vermont State Highway
- Class One
- Class Two
- Legal Trail
- Emergency U-Turn Area
- Proposed Class Two
- Proposed Class Three
- Proposed Vermont State Highway
- Proposed US Highway
- Proposed Interstate
- Discontinued Interstate
- Class Three
- Class Four
- State/National Forest Highway
- Military Road (No Public Access)
- Private Road

Wetland Advisory Layer: Class 3 Wetlands

VSWI
- Class 1 Wetland
- Class 2 Wetland

Rare, Threatened, and Endangered Species
- Threatened or Endangered
- Rare (Not T or E)

GroundWaterSPA

Hydrography Lakes and Ponds (VHD 5k)

Hydrography (VHD 5k)

Deer Wintering Areas

Hydric Soils
- Hydric Soils

NAIP Color Orthophotos 2009

VT State Plane Meters (NAD83)

N

Scale: 1:8,516

Map center: 494841, 191353

DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. VCGI and the State of Vermont make no representations of any kind, including but not limited to the warranties of merchantability or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.

URL: http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/launch.jsp

9/28/12

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN VERMONT

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Addison	Indiana bat	Endangered	Forests and Woodlots.	Ferrisburg, Panton, Addison, Bridport, Shoreham, Orwell, Whiting, Cornwall, Weybridge, Vergennes, Waltham, New Haven, Monkton, Starksboro, Bristol, Middlebury, Salisbury, and Leicester
Bennington	Indiana bat	Endangered	Hibernacula (caves and mines)	Dorset, Manchester and Sandgate
Chittenden	Indiana bat	Endangered	Forests and Woodlots	Charlotte, Hinesburg and St. George
Essex	Dwarf wedgemussel	Endangered	Connecticut River main channel	Bloomfield, Maidstone, Guildhall, Lunenburg, and Concord
	Canada lynx	Threatened	Regenerating softwood forest, usually with a high snowshoe hare density	All
Orange	Dwarf wedgemussel	Endangered	Connecticut River main channel	Newbury, Bradford, Fairlee, and Thetford
Rutland	Indiana bat	Endangered	Forests and Woodlots Hibernacula (caves and mines)	Benson, Brandon, Sudbury, Fair Haven, Pittsford and West Haven
				Brandon and Chittenden
Windham	Dwarf wedgemussel	Endangered	Connecticut River main channel	Rockingham
	Northeastern bulrush	Endangered	Wetlands	Rockingham, Grafton, Townsend, Athens, Westminster, Newfane, Brookline, Putney and Dummerston
Windsor	Jesup's milkvetch	Endangered	Banks of the Connecticut River	Hartland
	Northeastern bulrush	Endangered	Wetlands	Springfield and Chester
	Dwarf wedgemussel	Endangered	Connecticut River and Black River main channel	Springfield, Weathersfield, Windsor, and Hartland

-There are no known occurrences for federally endangered or threatened species in Caledonia, Franklin, Grand Isle, Lamoille, Orleans and Washington Counties.
-Endangered gray wolves are not known to be present in Vermont, but dispersing individuals from source populations in Canada may occur statewide.
-There is no federally-designated Critical Habitat in Vermont.

3/12/2012

Carol Lacount

From: Sonja Schuyler
Sent: Monday, September 10, 2012 1:19 PM
To: Carol Lacount; Shelly McCarthy
Subject: FW: Fisher Road Wetland ID and Delineation

Please file this in 3-3004-01

Sonja A. Schuyler
The Johnson Company, Inc.
100 State Street, Suite 600
Montpelier, VT 05602
802-229-4600 Phone
802-229-5876 FAX

From: Morrison, Shannon [Shannon.Morrison@state.vt.us]
Sent: Monday, September 10, 2012 10:23 AM
To: Sonja Schuyler
Subject: RE: Fisher Road Wetland ID and Delineation

Sonja,

I visited the property with you on September 6, 2012. I agree with Brad Wheeler's assessment that the property is not a jurisdictional wetland. Therefore, no Vermont Wetlands permit is required for activities in the wetland or within 50-feet of the wetland. Thanks for meeting with me.

Shannon Morrison
District Wetlands Ecologist
Department of Environmental Conservation
Water Quality Division
103 S. Main Street, Building 10 N
Waterbury, VT 05671

Winooski phone: 802-338-4823

http://www.vtwaterquality.org/wetlands.htm

From: Sonja Schuyler [mailto:SAS@jcomail.com]
Sent: Thursday, September 06, 2012 9:33 AM
To: Morrison, Shannon
Cc: Brad Wheeler; Sara Wengert (WengertS@aplususa.com); Anthony Garner (GarnerA@aplususa.com); Kuhn, Mike; Charlie Grenier (charles@GrenierEngineering.com)
Subject: FW: Fisher Road Wetland ID and Delineation

Dear Shannon,

Thanks for meeting at the Fisher Road site this morning. As we discussed, here is the wetland delineation report for the property. I will incorporate your follow-up e-mail documenting that the delineated feature is a man-made ditch and not jurisdictional into the Environmental Assessment for the property.

Sonja A. Schuyler
The Johnson Company, Inc.
100 State Street, Suite 600
Montpelier, VT 05602
802-229-4600 Phone
802-229-5876 FAX

From: Brad Wheeler [mailto:brad@wheelerenv.com]
Sent: Tuesday, July 24, 2012 12:15 PM
To: Sonja Schuyler
Subject: Fisher Road Wetland ID and Delineation

Dear Sonja,

On July 23rd, I completed a wetland identification and delineation at the Fisher Road property in Berlin that is currently being evaluated for use for a Vermont State Hospital facility. The area in question is immediately west of property owned by Lague, Inc. It is north of Fisher Road and east of the brook that runs east of and parallel to Paine Turnpike.

The area that meets the physical parameters of a wetland (hydric soils, a dominance of wetland plant species and wetland hydrology) is a constructed feature on the landscape that is essentially a ditch that was dug in an upland. According to Mr. Henry Lague, the purpose of the ditch, which was built in the 1940s, was to protect the water supply for the City of Montpelier in the event of a catastrophic fuel release at the Knapp Airport. Apparently, a large volume of fuel was stored at the airport during World War II, and since the City's water supply at the time was the small pond slightly north of the site, a ditch system was constructed that was designed to capture and control any overland flow of fuel that might result from a catastrophic release from the fuel tanks at the airport. Two concrete structures, apparently designed to collect and store fuel, are still present along this ditch, slightly north of the area where we completed our wetland site visit on July 23rd.

A buried 12-inch diameter water main that now or formerly supplied water to Central Vermont Hospital is currently located in this ditch. The hydrant near Fisher Road is connected to this water line.

I marked the eastern edge of the part of the ditch that meets the physical parameters of a wetland by hanging eleven pink survey flags along this edge. The last few flags are at the southern end of the ditch near Fisher Road, and wrap around the end of the ditch so that the last flag is on the southwest edge of the ditch. The flags are labeled A-1 through A-11.

Although this area does meet the physical definition of a wetland, the State and Federal wetland regulatory programs do not recognize this type of area as a jurisdictional wetland. The basic premise is that a ditch that was constructed in an upland (which is clearly the case with this ditch) is not a jurisdictional wetland, regardless of whether the bottom of the ditch has developed wetland characteristics. In situations like this, the area is not a wetland and is not subject to jurisdiction from either the Vermont Agency of Natural Resources (VT ANR) or the US Army Corps of Engineers wetland regulatory programs. There is no regulated buffer zone associated with the ditch. Any activities that disturb the ditch or the upland area adjacent to the ditch are not subject to oversight by the wetland regulators.

This determination is based on my best professional opinion developed from over 20 years of wetland mapping and permitting. I strongly recommend that you request a site visit from Shannon Morrison of the VT ANR to confirm this opinion.

Please feel free to call or email me with any questions or if I can be of any additional service to you for this project.

Best regards, Brad

Bradley A. Wheeler, Principal Scientist
Wheeler Environmental Services, LLC
P.O. Box 13
Barre, Vermont 05641
Phone: (802) 479-4500 / Cell: (802) 793-8367

Sonja Schuyler

From: Sonja Schuyler
Sent: Wednesday, June 27, 2012 10:36 AM
To: Carol Lacount
Subject: FW: Proposed Vermont State Hospital

Please file this in Correspondence in 3-3004-01

Sonja A. Schuyler
The Johnson Company, Inc.
100 State Street, Suite 600
Montpelier, VT 05602
802-229-4600 Phone
802-229-5876 FAX

From: Dillon, Scott [Scott.Dillon@state.vt.us]
Sent: Wednesday, June 27, 2012 9:31 AM
To: Sonja Schuyler
Subject: RE: Proposed Vermont State Hospital

Hi Sonja- To summarize our site visit yesterday to the proposed Vermont State Hospital sites in Berlin, the following conclusions were reached:

Fisher Road Site

No archeological or standing structure concerns were identified at this site with the exception of the wooded area along the west periphery of the property. This area would need to be subject to a Phase I archeological survey if there is any ground disturbance beyond the existing driveway that borders the wooded area. I would be able to write a sign-off letter for this property if final plans do not affect any areas west of the driveway.

State Library Site

There are two potential layouts for this project. One plan would involve removing the three existing residences along the road. At least one of these buildings is historic and would likely require review and mitigation for its removal. Undisturbed portions of this area would require a Phase I archeological survey since the general location is archeologically sensitive. The second plan would affect the interior part of the parcel and is also archeologically sensitive and would need to be surveyed prior to any disturbance.

Let me know if you need more information. Thanks, Scott

R. Scott Dillon
Survey Archeologist
National Life North Building
Vermont Division for Historic Preservation
One National Life Drive-6th Floor
Montpelier, VT 05620-0501
802-828-3048
scott.dillon@state.vt.us

From: Sonja Schuyler [mailto:SAS@jcomail.com]
Sent: Monday, June 18, 2012 1:47 PM
To: Dillon, Scott
Cc: Sara Wengert (WengertS@aplususa.com)
Subject: Proposed Vermont State Hospital

Dear Scott,

The two potential locations for the new Vermont State Hospital are still under consideration and will be evaluated for the NEPA review. Can you give us an opinion about the need for an Archaeological Assessment and ask Devin Colman if an historic structures review would be required? If either type of review is required, we need to move forward quickly.

Thanks,

Sonja A. Schuyler
The Johnson Company, Inc.
100 State Street, Suite 600
Montpelier, VT 05602
802-229-4600 Phone
802-229-5876 FAX

C-4

VERMONT

State of Vermont
Division for Historic Preservation
One National Life Drive, Floor 6
Montpelier, VT 05620-0501
www.HistoricVermont.org

[phone] 802-828-3211
[division fax] 802-828-3206

Agency of Commerce and Community Development

September 18, 2012

Sonja A. Schuyler
The Johnson Company, Inc.
100 State Street, Suite 600
Montpelier, VT 05602

Re: Proposed Vermont State Hospital Construction Project, Berlin, Vermont
FEMA/BGS

Dear Ms. Schuyler:

Thank you for the opportunity to comment on the above-referenced project involving the Federal Emergency Management Agency and the Vermont Department of Buildings and General Services (DHP #WA12-004).

The Division for Historic Preservation reviewed this proposed undertaking pursuant to 36 CFR 800.4, regulations established by the Advisory Council on Historic Preservation to implement Section 106 of the National Historic Preservation Act. The Division also reviewed this proposed undertaking for the purposes of 22 V.S.A. Chapter 14, the Vermont Historic Preservation Act, on behalf of the Vermont Advisory Council on Historic Preservation. Project review consists of identifying the project's potential impacts to historic buildings and structures, historic districts, historic landscapes and settings, and to known or potential archeological resources.

The proposed project involves the construction of a new Vermont State Hospital facility in Berlin, VT. The project site consists of five contiguous parcels of land, with a structure on each parcel. Devin Colman, Historic Preservation Review Coordinator, conducted a site visit to the project area in July 2012. All the existing structures appear to have been built in the 1970s and are less than fifty years old. As such, they are not eligible for listing on the State or National Registers of Historic Places.

Scott Dillon, Survey Archeologist, has reviewed the Phase I Site Identification Survey for the project area, which was prepared by UVM CAP and is dated August 10, 2012. The survey did not identify any evidence of precontact era Native American occupation, and no further archeological study is recommended. We concur with the findings of the UVM CAP report.

Based on the materials submitted for review, it is our opinion that there will be No Historic Properties Affected by the proposed project. If you have any questions or need clarification

regarding any of the above, please do not hesitate to contact Devin Colman, Historic Preservation Review Coordinator, at 802-828-3043 or devin.colman@state.vt.us. Mr. Colman reviewed this project and prepared this letter. I concur with the findings and conclusions described above.

Sincerely,
VERMONT DIVISION FOR HISTORIC PRESERVATION

Giovanna Peebles
State Historic Preservation Officer

Cc: Mike Kuhn, BGS
Peter Thomas, FEMA

The University of Vermont

August 10, 2012

Sonja A. Schuyler
The Johnson Company, Inc.
100 State Street, Suite 600
Montpelier, VT 05602

RE: End-of-Field Letter for an Archaeological Phase I Site Identification Survey for the Proposed Vermont State Hospital Construction Project, Berlin, Washington County, Vermont.

Dear Sonja,

During the dates of July 25th and 26th, 2012, the University of Vermont Consulting Archaeology Program (UVM CAP) conducted an archaeological Phase I site identification survey for the proposed Vermont State Hospital Construction project in Berlin, Washington County, Vermont (Figure 1). The proposed project will construct a 45,000 sq. ft. building with 25 beds on the Fisher Site, which is located northeast of the intersection of Fisher Road and Paine Turnpike N. in Berlin, Vermont. The project's Area of Potential Effects (APE) is currently wooded and has a small north-south trending tributary to Stevens Brook along its western boundary (see Figure 1).

Based on a preliminary field inspection by Scott Dillon, field archaeologist for the Vermont Division for Historic Preservation (VDHP), the project's Area of Potential Effects (APE) was deemed archaeologically sensitive. Using the VDHP's Environmental Predictive Model for Locating Archaeological Sites, project-area-sensitivity was established on the basis of its habitable topography and proximity to active hydrological features. As a result of the review, an archaeological Phase I site identification survey was recommended to determine whether any precontact era Native American sites would be impacted by the proposed construction project.

Methods and Results

For the purposes of the Phase I site identification survey, UVM CAP archaeologists excavated a total of 38, 50 x 50 cm (20 x 20 in) test pits throughout the project's Area of Potential Effects (Figure 2). The test pits were spaced at 10 m (33 ft) intervals (wherever possible) along five linear parallel transects trending roughly north/south through the wooded parcel. Each transect was spaced and off-set by 5 m (16 ft), allowing for staggered coverage of the project location (see Figure 2). This Phase I sampling strategy was concentrated primarily along the crest of the terrace formation, parallel to the edge of the deeply incised Stevens Brook drainage.

Overall, test pits were excavated in 10 cm (4 in) vertical levels with respect to natural stratigraphic soil horizons, and terminated at depths averaging 30-40 cm (12-16 in) below the ground surface; or at least 10 cm into the intact "B" substratum. Soils were sieved through 6.4

CONSULTING ARCHAEOLOGY PROGRAM
111 Delehanty Hall, 180 Colchester Avenue, Burlington, VT 05405
(802) 656-4310 • fax: (802) 656-8033

mm (1/4 in) mesh hardware cloth, and stratigraphic profiles were recorded for every test pit according to both texture and Munsell chart colors.

Throughout the survey area, test pit profiles revealed a combination of intact and moderately disturbed soils. The upper disturbed stratum (Ap horizon) averaged 19 to 26 cm (7.5-10 in) below the ground surface before transitioning to intact "B" subsoil. In some cases, only a thin organic "AO" lens was identified over the intact "B" soils. These instances may be the result of intentional soil-stripping or natural events such as uprooted trees. Areas of chemically weathered soil occurring at the interface between the "Ap" and "B" horizon were also identified within several profiles. These chemically weathered pockets, termed podzols, are common among evergreen stands. On-site communication with the previous landowner indicates that the occupying softwood forest had been planted ca. 1942, thus allowing for such soil conditions to develop. Prior historic land-use of the parcel likely included farmland/pasture.

Finally, soil textures across the landform ranged from silt loam to fine sandy loam in the upper disturbed "Ap" horizon, followed by very fine sand and silt in the "B" and "BC" substrata. Moderate amounts of gravel/decomposed ledge rock were identified throughout.

Ultimately, as a result of the archaeological Phase I site identification survey, no evidence of precontact era Native American occupation was identified in any of the sampled locations.

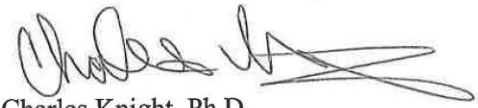
Conclusions and Recommendations

The State of Vermont, through the consulting firm of The Johnson Company, proposes the Vermont State Hospital Construction Project, Berlin, Washington County, Vermont. The Phase I site identification survey of the proposed Vermont State Hospital Construction project area did not identify any precontact Native American or contact era Euroamerican sites. Because no cultural deposits were identified during the Phase I survey, no further archaeological study is required within the project's Area of Potential Effects. As a result, the proposed project will have no effect on significant cultural resources.

Thank you for your interest in working with us on this project. We appreciate your patience and cooperation over the course of our investigation. Please feel free to contact us anytime if you have any questions regarding the results of this study.

Sincerely,

Andrew M. Fletcher
Research Supervisor



Charles Knight, Ph.D.
Assistant Director

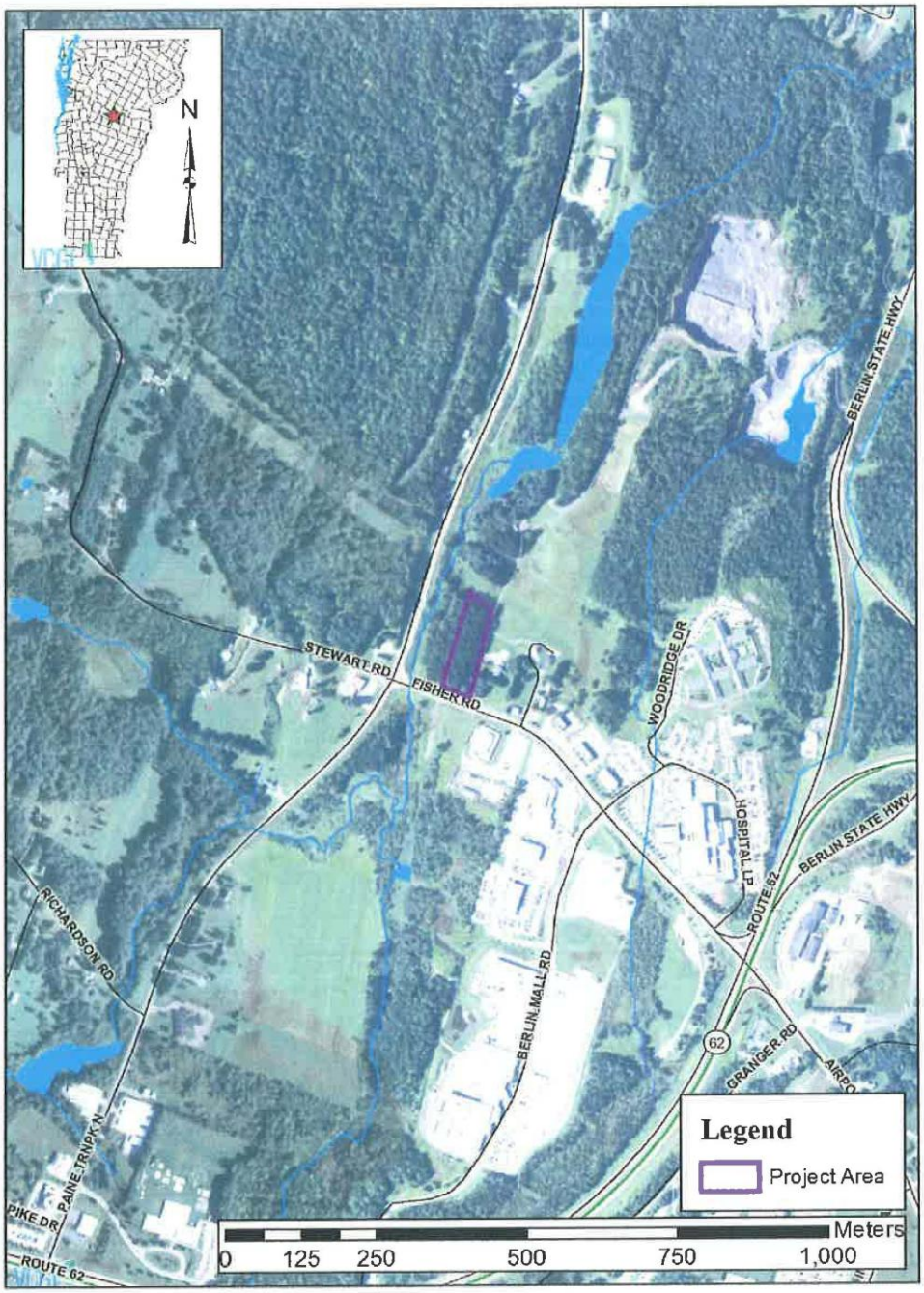


Figure 1. Map showing the location of the proposed Vermont State Hospital Construction project in Berlin, Washington County, Vermont.

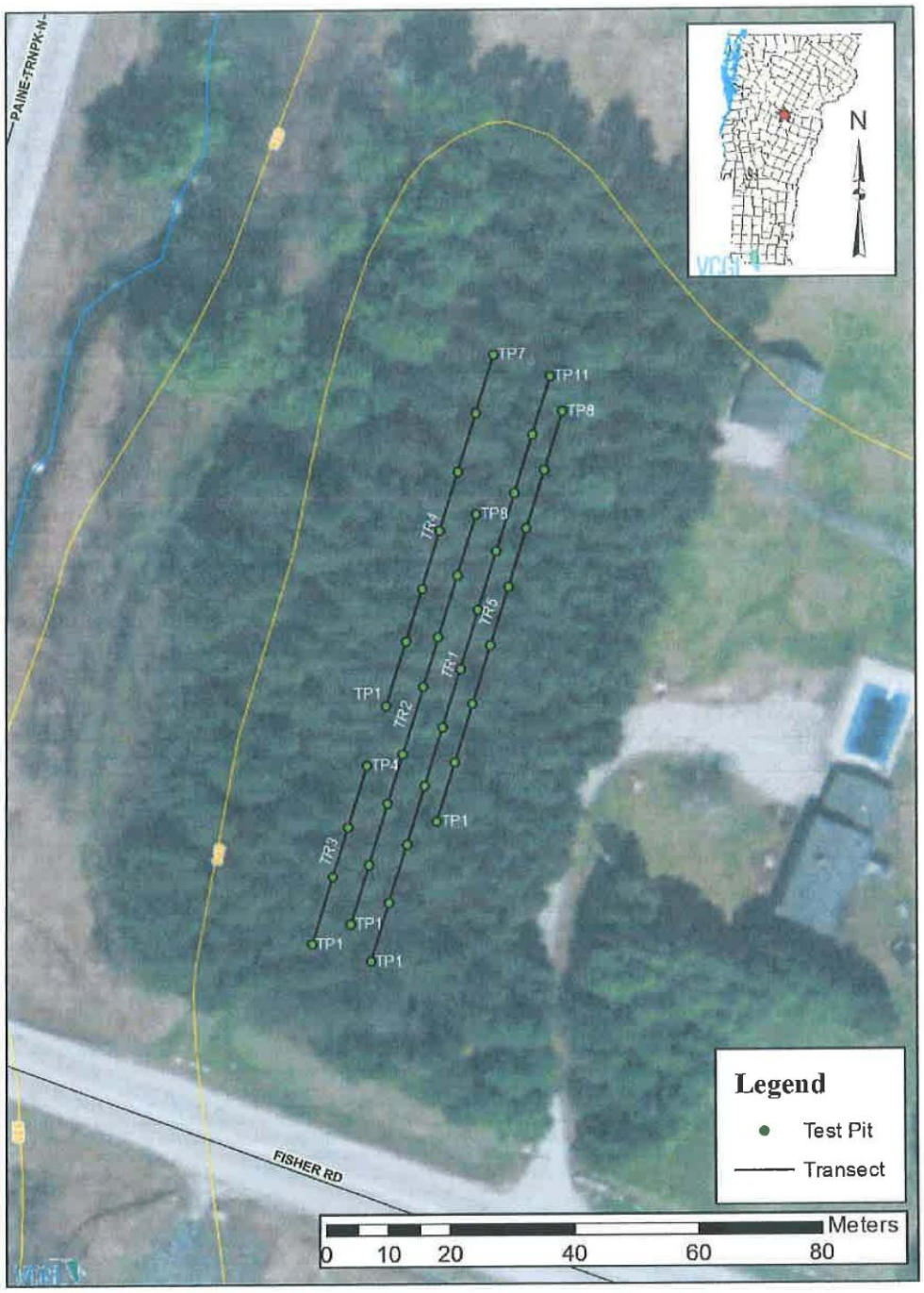


Figure 2. Map showing the location of archaeological Phase I test pits excavated within the proposed Vermont State Hospital Construction project in Berlin, Washington County, Vermont.

TOWN OF BERLIN, VERMONT

ALLOCATION APPLICATION

APPLICATION # 2012 - 04

Berlin Sewer Commission - Municipal Office Building, 108 Shed Road, Berlin, Vt 05602 Telephone: 802.223-4405

Date of Application _____

Name of Applicant State of Vermont Attn: Michael Kuln

Applicant's Mailing Address Dept. of Bldgs & General Services, 2 Governor Hilen Ave., Montpelier, Vermont 05633

Applicant's Telephone (802) 828-4651

Authorized Agent Grenier Engineering, P.C

Agent's Mailing Address P.O. Box 485, Waterbury, VT 05676

Agent's Telephone (802) 244-6413

Project Location and Address Fisher Road, Berlin

Tax Map Location of Project RI-9, RI-10, RI-11, RI-12, RI-13, RI-14

Applicant's Legal Interest in Property Option to buy

Project Description Construction of a 25-Bed Secure Recovery Facility by the State of Vermont which will employ up to 164 employees.

Allocation Requested (gallons per day) 4468 Existing Allocation (if applicable) N/A

Nature of Wastewater and Use Normal domestic use.

Anticipated Date when Sewer Construction will be Connected Summer 2013

DATE 8/15/2012 SIGNATURE Michael J Chuchwski

PRINT NAME Michael J. Chuchwski

PRINT TITLE Commissioner, BES

The Application is approved under the following provisions:

1. That the Applicant shall pay the fee for the allocated flow, in accordance with the provisions of THE TOWN OF BERLIN SEWER USE CHARGE ORDINANCE;
2. that the Sewer Commission shall be furnished plans and specifications for the specific location of the connection to the municipal sewer system, for review and approval, prior to construction;
3. that the Sewer Commission be notified prior to commencement of construction of the sewer line and connection;
4. that the construction of the connection to the municipal sewer system must be accomplished in accordance with the approved plans and specifications;

12/1/05

5. that the construction and connection must be inspected and certified, by a Vermont registered professional engineer, to have been completed in accordance within the approved plans and specifications, in addition, **the Town of Berlin Sewer Commissioner or its agent must inspect construction of the sewer prior to backfilling;**
6. that record drawings and leak test results be furnished within 30 days of completion of construction of the connection to the municipal sewer;
7. that a **WATER METER WITH AN EXTERNAL READ-OUT,** which is to be read and sealed by an official of the Town of Berlin Sewer Commission upon installation, shall be installed;
8. that the wastewater allocation and its conditions shall run with the land and is specific to the Project and shall not be transferred or conveyed without the prior approval of the Town of Berlin Sewer Commission;
9. grease, oil and sand interceptors shall be provided when, in the opinion of the Sewage Disposal Commissioners, they are necessary for the proper handling of liquid wastes containing grease in excess amounts, or any flammable wastes, sand, or other harmful ingredients; except that such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the Sewage Disposal Commissioners, and shall be located as to be readily and easily accessible for cleaning and inspection;
10. that the allocation must be renewed if construction of the project is not completed and the project not connected within 2 years of the date of the interim approval.

TOWN OF BERLIN SEWER COMMISSION

DATE OF INTERIM CONNECTION APPROVAL _____

DATE SEWER CONNECTION COMPLETED _____

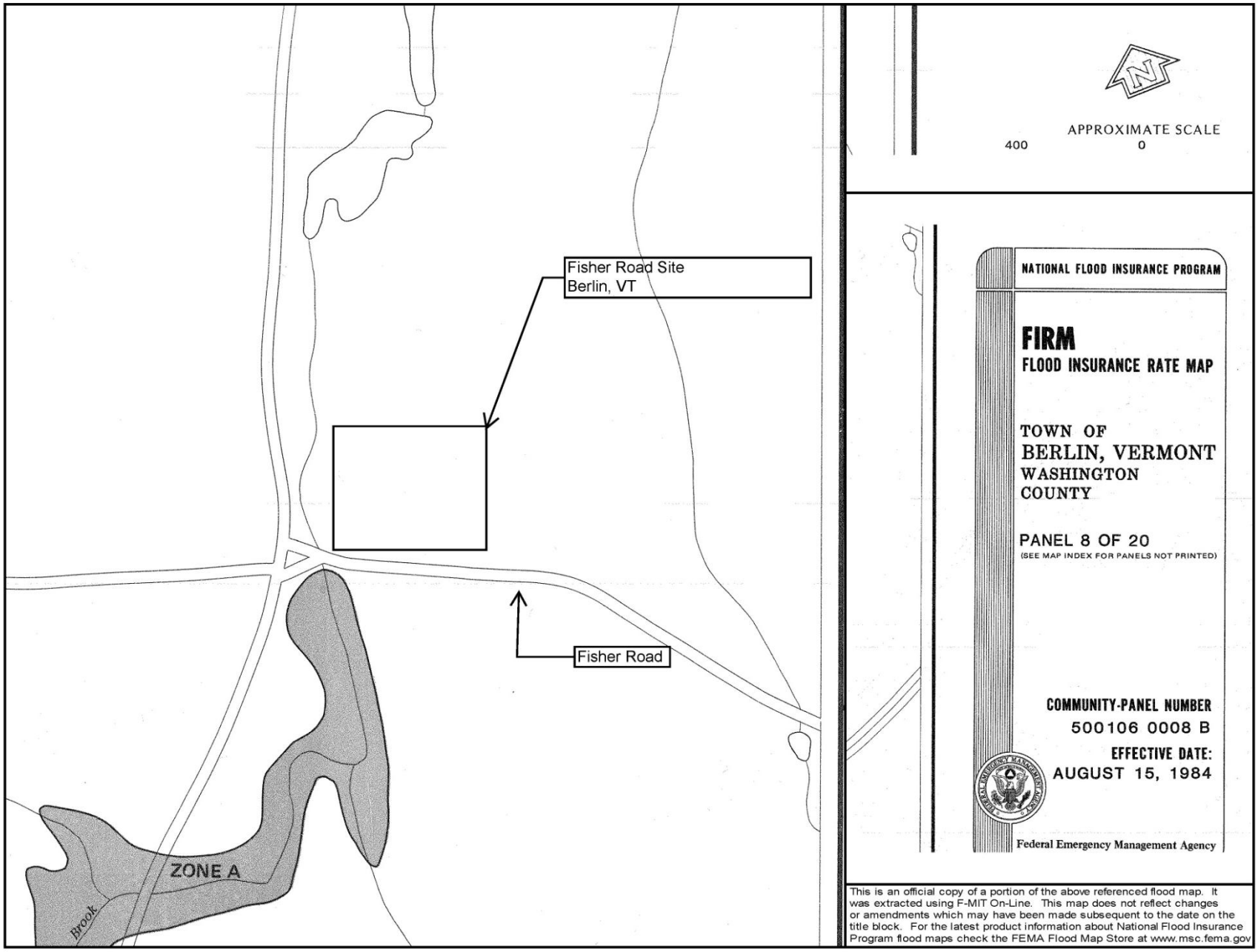
PROJECT INSPECTED BY _____ DATE _____

FEES -	Amount	Date Paid	
Total Due	8936		
Payable Upon Approval	8936	8/28/12	Certification of Treasurer
Balance Due			
Balance Paid	8936	8/28/12	Certification of Treasurer

12/1/2005

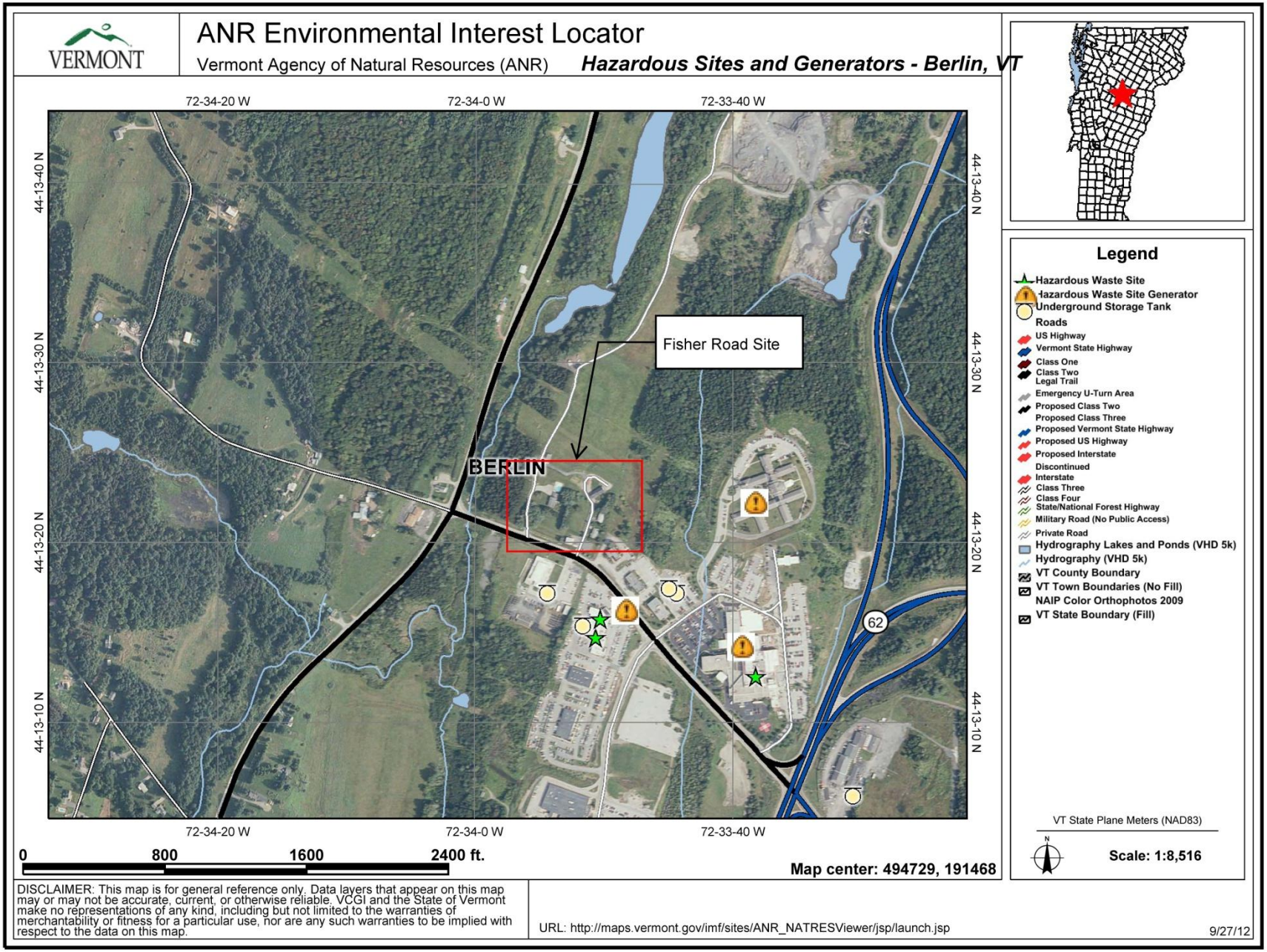
APPENDIX D

FEMA FLOODPLAIN MAP


Fisher Road Site
Berlin, VT
Fisher Road
ZONE A
Brook
APPROXIMATE SCALE
400
0
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
TOWN OF
BERLIN, VERMONT
WASHINGTON
COUNTY
PANEL 8 OF 20
(SEE MAP INDEX FOR PANELS NOT PRINTED)
COMMUNITY-PANEL NUMBER
500106 0008 B
EFFECTIVE DATE:
AUGUST 15, 1984
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

APPENDIX E

PUBLIC HEALTH AND SAFETY
VERMONT HAZARDOUS SITES MAP


VERMONT
ANR Environmental Interest Locator
Vermont Agency of Natural Resources (ANR)
Hazardous Sites and Generators - Berlin, VT
72-34-20 W
72-34-0 W
72-33-40 W
44-13-40 N
44-13-30 N
44-13-20 N
44-13-10 N
Fisher Road Site
BERLIN
62
0
800
1600
2400 ft.
Map center: 494729, 191468
Legend
Hazardous Waste Site
Hazardous Waste Site Generator
Underground Storage Tank
Roads
US Highway
Vermont State Highway
Class One
Class Two
Legal Trail
Emergency U-Turn Area
Proposed Class Two
Proposed Class Three
Proposed Vermont State Highway
Proposed US Highway
Proposed Interstate
Discontinued
Interstate
Class Three
Class Four
State/National Forest Highway
Military Road (No Public Access)
Private Road
Hydrography Lakes and Ponds (VHD 5k)
Hydrography (VHD 5k)
VT County Boundary
VT Town Boundaries (No Fill)
NAIP Color Orthophotos 2009
VT State Boundary (Fill)
VT State Plane Meters (NAD83)
N
Scale: 1:8,516
DISCLAIMER: This map is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. VCGI and the State of Vermont make no representations of any kind, including but not limited to the warranties of merchantability or fitness for a particular use, nor are any such warranties to be implied with respect to the data on this map.
URL: http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/launch.jsp
9/27/12

APPENDIX F

TRAFFIC ANALYSIS SUPPORTING DOCUMENTS

RSG INC.
TRANSPORTATION

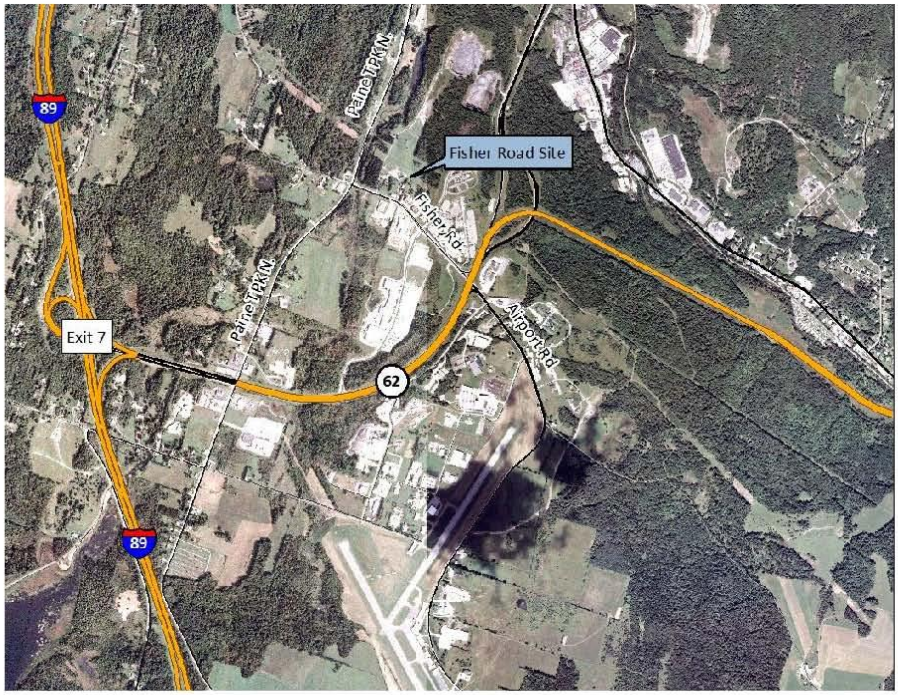
MEMORANDUM

To: David Burly, Director
VT Department of Buildings and General Services, Facilities Operations West Region
From: Mark Smith, P.E.
Subject: Berlin State Hospital Traffic Assessment - UPDATE
Date: 27 September 2012

1.0 Introduction

This memorandum assesses the expected vehicle trip generation and trip distribution onto the public road network from the proposed State Hospital in Berlin, VT. The site currently under consideration is off Fisher Road just west of Willard Bean Road (see Figure 1).The proposed hospital will serve Vermont patients suffering from mental illness who require a high level of care. The program will provide services for approximately 25 individuals at any one time and will be staffed by approximately 168 employees, who are necessary to provide care around the clock in three shifts.

Figure 1: Potential State Hospital Location



55 Railroad Row, White River Junction, Vermont 05001
TEL 802.295.4999 ▪ FAX 802.295.1006 ▪ www.rsginc.com

2.0 Trip Generation

Trip generation refers to the number of new vehicle trips originating at or destined for a particular development. To project the volume of new vehicle traffic associated with the project we examined daily operating schedules and expected patient and visitor activity and compared this with national trip generation data published by the Institute of Transportation Engineers (ITE).

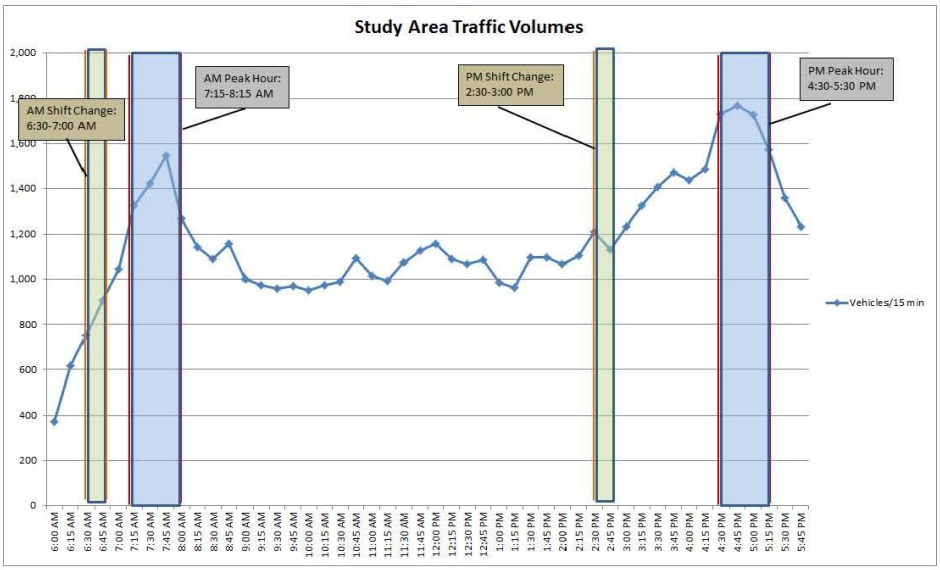
We understand 126 employees will staff the State Hospital around the clock in three separate shifts (42 per shift) and that 42 additional employees will work daily from 8:00 AM to 4:30 PM. Shift changes will occur from 6:30-7:00 AM, from 2:30-3:00 PM , and from 10:30-11:00 PM. Outside of employee traffic, patients generate a very limited number of trips, in the way of direct patients arriving and departing for care (1-2 per week), patient visitors (2-3 per day), and patient representatives (1-2 per day).

For this analysis, we have obtained recently conducted VTrans turning movement count data[1] at the following four intersections proximate to site under consideration:

- VT 62/Paine Turnpike North
- VT 62/Berlin Mall Road
- VT 62/Fisher Road/Airport Road
- Paine Turnpike North/Fisher Road

Figure 2 presents the total network traffic volumes at all four study area intersections over the course of the day in fifteen minute intervals. As can be seen below, the AM and PM peak hours of adjacent street traffic occur from 7:15-8:15 AM and from 4:30-5:30 PM.

Figure 2: Study Area Daily Traffic Volumes



The busiest time periods for site traffic generation occur during shift changes, when as many as 84 staff trips could occur within the same hour (42 arriving plus 42 leaving). However, as noted above, the shift change hours do not coincide with the peak hours of adjacent street traffic within the study area.

[1] Twelve hour turning movement counts were collected at these intersections in May of 2010 or May of 2011.

Based on the operating schedule described previously, there are 42 employees who work a standard 8:00 AM to 4:30 PM shift and who could add traffic during the adjacent street AM and PM peak hours. A somewhat crude and conservative estimate of trips would assume 1 trip per peak hour per employee, plus all of the visitor and patient activities result in AM and PM peak hour. The end result using this method would be 48 total vehicle trips occurring during the peak hours.

We compared this organic trip generation method with projected trip generation calculated for the Hospital land use (ITE Land Use 610) from the ITE publication *Trip Generation*.[1] While the Vermont State Hospital does not exactly match the ITE definition of a hospital, the operating dynamics of health care professionals working shifts is similar between the two uses and the level of patient activity is assumed to be higher at a typical hospital. The ITE trip generation rate for the Hospital use is 0.33 trips per employee during both the AM and PM peak hours. Applying the ITE rates to the 168 Vermont State Hospital Employees results in 55 AM peak hour trips (40 enter and 15 exit) and 55 PM peak hour trips (17 enter and 38 exit).

In order to put the anticipated Vermont State Hospital vehicle trip generation projections in perspective, VTrans guidelines specify that a traffic study should be considered if the proposed development will generate 75 or more peak hour trips. The geographic scope of the resulting study should include the immediate access points and those intersections or highway segments receiving 75 or more project-generated peak hour trips.[2] Anticipated trip generation for this project, using these two separate but conservative methods, is still expected to be well below the guideline VTrans threshold for requiring a formal traffic study.

2.1 Trip Distribution

Conservatively assuming the projected ITE peak hour trip generation of 55 trips per hour we distributed new vehicle trips onto the surrounding roadway network based on a gravity model of central Vermont employee residences created from the 2000 U.S. Census Journey to Work data and shortest driving distances between residence towns and the two potential sites. Figures 3 and 4 present the projected trip generation at the four study area intersections during the AM and PM peak hours.

[1] Institute of Transportation Engineers, *Trip Generation* 8th Edition (Washington, D.C.: Institute of Transportation Engineers, 2008).

[2] Vermont Agency of Transportation, Development Review Section, *Traffic Impact Evaluation Study and Review Guide* (January 2003)2.

Figure 3: Trip Generation and Distribution for the Fisher Road Site- AM Peak Hour

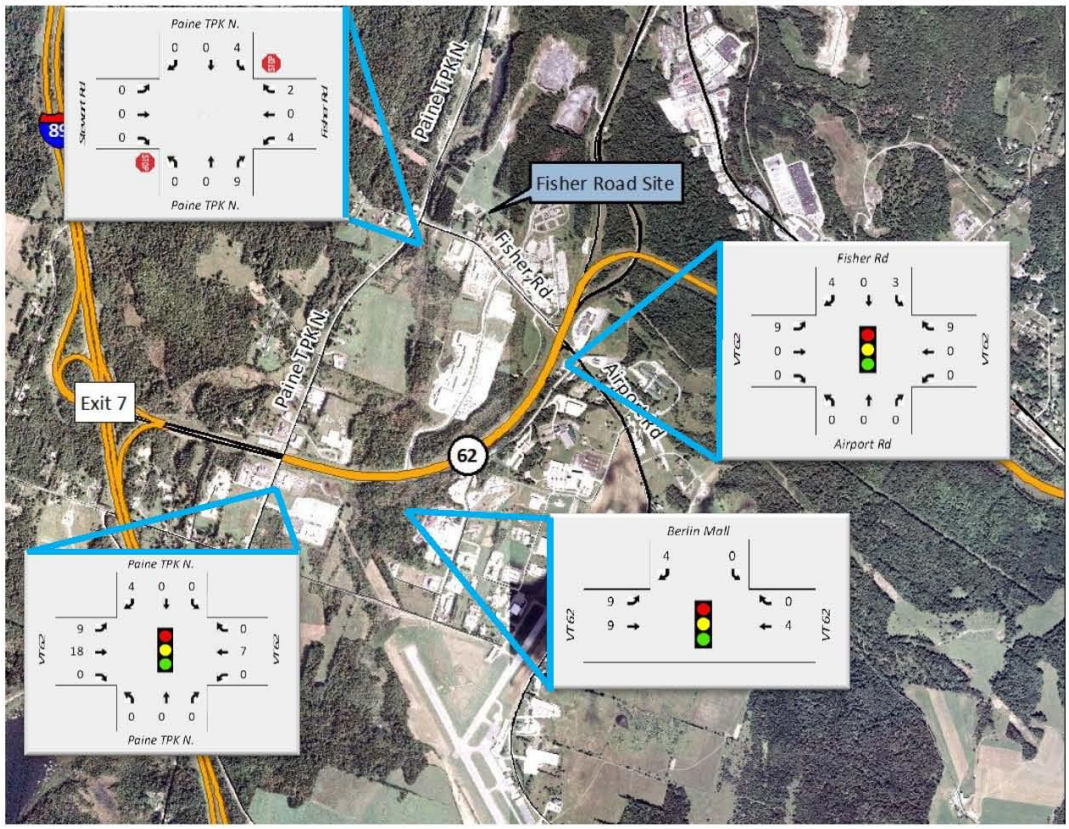
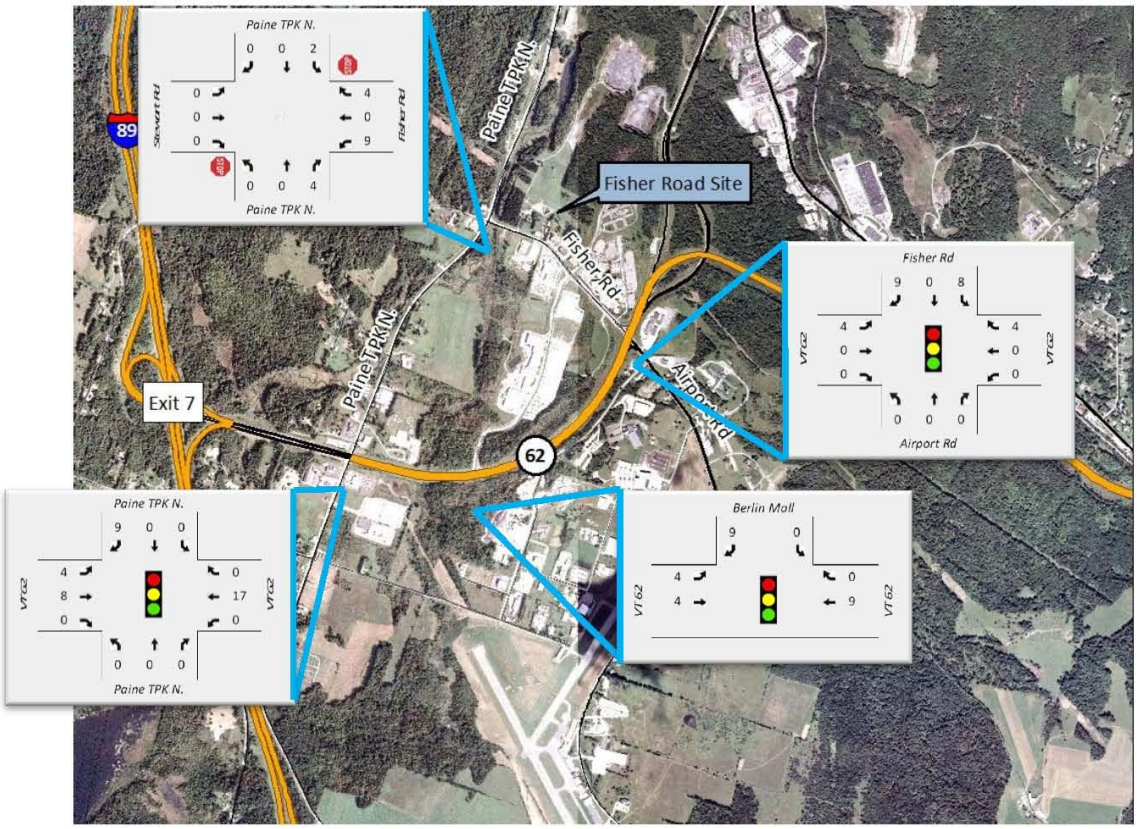


Figure 4: Trip Generation and Distribution for the Fisher Road Site- PM Peak Hour



2.2 Conclusions

After examining two potential methods for calculating Vermont State Hospital trip generation we conservatively project approximately 55 new vehicle trips during the AM peak hour (40 enter and 15 exit) and 55 new vehicle trips during the PM peak hour (17 enter and 38 exit). Anticipated trip generation for this project is well below the VTrans guideline threshold for requiring a formal traffic study.

We have distributed project traffic onto the roadway network based on U.S. Census 2000 Journey to Work data for central Vermont employees and project that no intersections will experience 75 or more peak hour trips as a result of this project. In fact the largest impact (38 trips at VT 62 and Paine Turnpike) is less than 2% of the total peak hour traffic at that location.

END OF MEMO

APPENDIX G

PERMITS AND OTHER SUPPORTING DOCUMENTS

Berlin State-Run Psychiatric Hospital
25 Bed Recovery Facility
Berlin, Vermont

PERMITS REQUIRED

Local

- Berlin Zoning Permit Approval after hearings with Development Review Board
- Berlin Building Permit
- City of Montpelier – Water System Connection

State

- Wastewater and Potable Water Supply with allocation letters
- Water Supply Division (hydrants with watermain extension over 500')
- Stormwater Discharge Permit
- Construction General Permit for Erosion Control
- VTrans or Berlin Curb Cut/Utility Road Crossing Permit
- No State Act 250 Permit required
- Public Safety (usually the architect) so-called "Labor and Industry Permit"
- Underground Construction for Sprinkler Line

Grenier Engineering, P.C.
September 27, 2012