Mailing Address:
1 Baldwin Street
Drawer 33
Montpelier, Vermont 05633-5701

Tel.: (802) 828-2295
Fax: (802) 828-2483

STATE OF VERMONT
JOINT FISCAL COMMITTEE
1 Baldwin Street
Montpelier, Vermont 05633-5701

MEMORANDUM

To: James Reardon, Commissioner of Finance & Management

From: Rebecca Buck, Staff Associate RB

Date: January 18, 2007

Subject: Status of Grant Request

No Joint Fiscal Committee member has requested that the following item be held for review:

JFO #2283 - $30,000 grant from the Environmental Protection Agency (EPA) to the Agency of Commerce and Community Development, Department of Housing and Community Affairs. The purpose of this grant is to protect water quality by helping small communities in Vermont provide adequate wastewater treatment for their residents and businesses.
[*JFO received 12/19/06*]

In accordance with 32 V.S.A. §5, the requisite 30 days having elapsed since this item was submitted to the Joint Fiscal Committee, the Governor's approval may now be considered final. We ask that you inform the Secretary of Administration and your staff of this action.

cc: Linda Morse
Kevin Dorn
John Hall

Mailing Address:
1 Baldwin Street
Drawer 33
Montpelier, Vermont 05633-5701

Tel.: (802) 828-2295
Fax: (802) 828-2483

STATE OF VERMONT
JOINT FISCAL COMMITTEE
1 Baldwin Street
Montpelier, Vermont 05633-5701

MEMORANDUM

To: Joint Fiscal Committee Members
From: Maria Belliveau, Associate Fiscal Officer
Date: December 19, 2006
Subject: Grant Requests

Enclosed please find two (2) requests which the Joint Fiscal Office recently received from the Administration.

JFO #2283 - $30,000 grant from the Environmental Protection Agency (EPA) to the Agency of Commerce and Community Development, Department of Housing and Community Affairs. The purpose of this grant is to protect water quality by helping small communities in Vermont provide adequate wastewater treatment for their residents and businesses.
[JFO received 12/19/06]

JFO #2284 - $740,421 grant from the U.S. Department of Justice, Office of Community Oriented Policing Services (COPS) to the Department of Public Safety. This grant will be used to provide staff support for mobile data applications, the Department's access to the Vermont Law Enforcement Telecommunications System (VLETS) and the Vermont Incident Based Reporting System (VIBRS). This grant will also be used to purchase software to augment the mobile data project and to continue the purchase of the mobile wireless connections that provide mobile data services to the Vermont State Police.
[JFO received 12/19/06]

The Joint Fiscal Office has reviewed these submissions and determined that all appropriate forms bearing the necessary approvals are in order.

In accordance with the procedures for processing such requests, we ask you to review the enclosed and notify the Joint Fiscal Office (Maria Belliveau at 802/828-5971; mbelliveau@leg.state.vt.us or Stephen Klein at 802/828-5769; sklein@leg.state.vt.us) if you would like any item(s) held for Legislative review. Unless we hear from you to the contrary by January 2, 2007 we will assume that you agree to consider as final the Governor's acceptance of these requests.

cc: James Reardon, Commissioner
Linda Morse, Administrative Assistant
Kevin Dorn, Secretary
Kerry Sleeper, Commissioner

From: Maria Belliveau
To: peg.elmer@state.vt.us
Date: 12/22/2006 10:07 AM
Subject: JFO #2283 - $30,000 Grant from the EPA to Protect Water Quality

CC: Michael Obuchowski; Rebecca Buck; Steve Klein

Hope all is well with you. The Joint Fiscal Committee received a request to approve a grant of $30,000 from the EPA to the Agency of Commerce and Community Development, Department of Housing and Community Affairs. Rep. Michael Obuchowski has a few questions regarding the grant as follows:

1. Please provide a list of the unsewered villages.
2. Has anyone estimated the cost that would be incurred to address these unsewered villages?
3. What is the projected impact of these unsewered villages on the Capital Bill?

Please respond directly to Rep. Obuchowski and copy me, Steve Klein and Rebecca Buck. Thank you for your help.

From: "Elmer, Peg" <Peg.Elmer@state.vt.us>
To: "Michael Obuchowski" <OBIE@leg.state.vt.us>
Date: 12/22/2006 11:08 AM
Subject: RE: JFO #2283 - $30,000 Grant from the EPA to Protect WaterQuality
Attachments: Appendix D (FAA Town Comparison).doc; OnSiteSewageReformStudy.pdf; Summary Document 7.26.doc

CC: "Rebecca Buck" <RBUCK@leg.state.vt.us>, "Steve Klein" <SKLEIN@leg.state....

Dear Rep Obuchowski

Thank you for your interest and detailed questions. To answer your 3 questions:

1. Attached is an informal tally of unsewered villages which was developed with the help of the regional planning commission staff 10 yrs ago at the beginning of the sewage reform effort in the legislature. In the time since, only 5 villages have been able to move forward to address the issue -- Cabot, Shoreham, Pownal, Warren and E. St Johnsbury -- all with very large federal earmarks via Vt's congressional delegation

2. Cost. Attached are 2 documents. One is a comparison of costs among those recent projects. Pownal, which is a more than $30 million centralized treatment project now, is a spur behind requesting this grant from EPA, along with the knowledge that wastewater treatment capacity is a major deterrent to building densely in Vermont. The Dept was nudged to try to gain some resources to address the issue by both professional consultants and municipal officials who believe that decentralized solutions can often be more cost-effective, if local decision-makers can receive background information on their use and reliability in Vermont. They were requesting that state government do more to make that information available.

The other document is some background material collected by graduate interns on comparing centralized vs decentralized options (and I apologize if the columns aren't aligning - I see they are not on opening it up - it may not be that helpful on cost comparisons as a result but does offer some background information)

E. Montpelier is moving forward to investigate the decentralized approach right now. Jamaica has been increasingly open about its failures among its historic buildings and the need for a solution there. Grafton is also currently investigating an answer. These appear in our small municipal planning grants and some gain VCDP grants to do initial planning. We have a huge VCDP outlay to Pownal on their project but that system will serve enough users to bring the cost/user down to a comparable level

3. Impact on the Capital Bill. Uncertain. No impact in the short term. There is nowhere near enough funding available, federal or state, to cope with infrastructure needs across the board. It's a long-term, little-bit-at-a-time effort. Hopefully with this training, in the long term, Vermont will get more systems actually built while keeping the cost/user down, but probably only with continued significant federal earmarks. This is an educational project aimed at local decision-makers who often rely heavily on their professional consultant to provide them

with all the answers. The consultants are paid via a percentage of the project. We'd like to get the local legislative bodies asking tougher questions about a wider range of options that should lead them to smaller, de-centralized systems that cost less when those are applicable.

Please do not hesitate to contact me for more information.
Thank you!

Peg Elmer, AICP
VT DHCA Planning Director
National Life Bldg, Drawer 20
Montpelier, VT 05620-0501
802-828-5220

-----Original Message-----
From: Maria Belliveau [mailto:mbelliveau@leg.state.vt.us]
Sent: Friday, December 22, 2006 10:08 AM
To: Elmer, Peg
Cc: Michael Obuchowski; Rebecca Buck; Steve Klein
Subject: JFO #2283 - $30,000 Grant from the EPA to Protect WaterQuality

Hope all is well with you. The Joint Fiscal Committee received a request to approve a grant of $30,000 from the EPA to the Agency of Commerce and Community Development, Department of Housing and Community Affairs. Rep. Michael Obuchowski has a few questions regarding the grant as follows:

1. Please provide a list of the unsewered villages.
2. Has anyone estimated the cost that would be incurred to address these unsewered villages?
3. What is the projected impact of these unsewered villages on the Capital Bill?

Please respond directly to Rep. Obuchowski and copy me, Steve Klein and Rebecca Buck. Thank you for your help.

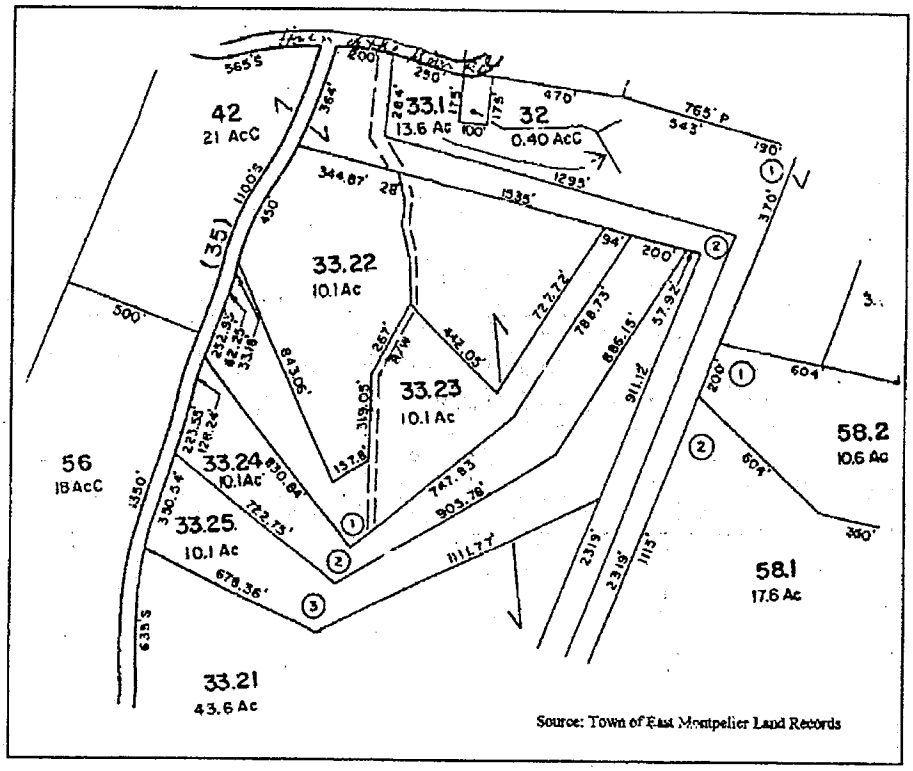
WASTEWATER SYSTEMS COMPARISON
NON-SEWERED VERMONT PROJECTS
(July 2006)

	Shoreham	Pownal	Cabot	Warren	East St. Johnsbury
1. Total Project Cost	$2,400,000	$29,000,000	$4,678,000	$4,350,000	$423,600
2. Equivalent Users (EU)	86	700	139	115	11
• Includes Elementary School?	Yes	Yes	Yes	Yes	No
3. Gross Cost per EU	$27,900	$41,400	$33,655	31,950	$38,500
4. Required Hook-up?	Yes	Yes	Yes	No	N/A
5. Distance: Required Hook-up	100'	200'	250'	N/A	N/A
6. • Estimated EU 1st Yr O&M Cost	$400	$400	$500 - $700 Range	$500	Individual On-Site Systems
• Loan Cost	$36	$80		$37	
Estimated EU 1st Yr O&M Cost Total:	$436	$480	$600	$537	
7. Connected Users to pay all?	No	No	Yes	No	Yes
8. Cost on Town Wide Tax	Yes	Yes	No	Yes	No
	4.5¢ on Town Tax	$76 Flat Tax per Parcel		1.7¢ on Town Tax	
9. Local Share %	19%	7%	13%	21%	0%
10. State and Federal Grants %	81%	93%	87%	79%	100%
11. Estimated Operations Start-up Date	Jun, 2001	Aug, 2006	Dec, 2001	Oct, 2004	2003

Notes.
1. These five projects are similar in that they are: a) were originally all non-sewered rural Vermont communities; b) all have had long standing needs for acceptable wastewater disposal; c) all have need for large % of grant funds.

Prepared by Forcier Aldrich & Associates, Essex Jct., VT, 1-802-879-7733, DPhillips@forcieraldrich.com

ON-SITE SEWAGE REFORM
LAND USE IMPLICATIONS STUDY



Vermont Department of Housing and Community Affairs

January 1997

Produced by Peg Elmer with the assistance of Ela Abrams,
New England Board of Higher Education Intern for the summer of 1996

The Department gratefully acknowledges the assistance of the following who served as advisors to this project:

Michael Munson, Principal, RESV, Inc
Joanna Whitcomb, Planning Director, Mad River Valley Planning District
Sandi Young, Executive Director, Addison County Regional Planning Commission
Bernie Johnson, Special Assistant to the Secretary, Vermont Agency of Natural Resources
Steve Holmes, Deputy Director for Policy, Vermont Natural Resources Council
Karen Horn, Legislative Director, Vermont League of Cities & Towns
Greg Brown, Deputy Commissioner, Vermont Department of Housing & Community Affairs

and the following who volunteered technical assistance:

Lance Phelps and Gary Fern, Phelps Engineering, Inc
Steve Gourley, USDA NRCS
Dave Cotton, Wastewater Technologies, Inc.
Bruce Douglas, Stone Environmental, Inc.
Roger Thompson, Vermont Agency of Natural Resources
Craig Heindel, Nelson, Heindel & Noyes
Kevin Behm, Addison County Regional Planning Commission

Appendix VII – List of Unsewered Villages in Vermont*

Chittenden County (14)
Underhill Ctr
Underhill Flats to Jericho Corners
Jericho Ctr
Westford
Bolton
Huntington (lower and upper villages and Hanksville)
Mechanicsville
Charlotte (main village and East Charlotte)
St.George
Colchester (Malletts Bay area)

Lamoille County (8)
Cambridge
Eden (very tiny)
Elmore
Waterville
Wolcott
Belvidere Ctr.
N. Hyde Park
Moscow

Addison County (20)
Shoreham
Bridport
Addison
Panton
Starksboro
New Haven
Ripton
Salisbury
Goshen
Leicester
Whiting
Cornwall
Waltham
Weybridge
Ferrisburg (and N. Ferrisburg)
Monkton
Lincoln
Granville
E. Middlebury

Northeast Kingdom (35)
Albany
Barnet (Passumpsic and McIndoes)
Bloomfield
Burke (East and West)
Charleston (East and West)
Concord
Conventry
Craftsbury
Brownington
Holland
Greensboro
Groton
E.Hardwick
Irasburg
Lowell
Lunenburg
Maidstone (lakeshore)
Morgan (Seymour lakeshore)
Lemington
Sheffield
East St Johnsbury
Sutton
Walden Ctr
Lower Waterford
Westfield
Willoughby lakeshore
Wheelock
Norton
Peacham
Ryegate Ctr
Guildhall

*compiled with the assistance of the 12 regional planning commissions and the Vt DEC, this is not intended to be an exhaustive survey and did not include an evaluation of existing sewage problems or interest in further development.

Windham County (14)

Grafton	Townshend
Jamaica	Vernon
Londonderry	Wardsboro
Newfane	West Halifax
South Londonderry	Westminster
South Newfane	Dummerston
Marlboro	Williamsville

So. Windsor RPC (4)

Brownsville
Reading
Ascutney Village (resort is sewered)
Weston

Two-River Ottuaquechee RPC (14)

Fairlee	Pittsfield
S. Strafford	E. Randolph
Sharon	Stockbridge
Gaysville	West Fairlee
Hancock	East Brookfield
Strafford	Pond Village

Bridgewater Corners
Royalton village

Franklin/Grand Isle Counties (14)

Fairfield	Georgia
Isle La Motte	No. Hero
So. Hero	Grand Isle
Fletcher	Franklin
Highgate	Berkshire
Bakersfield	Montgomery
St. Albans Bay	E. Berkshire

Rutland County (16)

Sudbury	Tinmouth
Chittenden	Clarendon (two villages)
Danby	Danby Four Corners
Mt Holly	Middletown Springs
Belmont	Mt Tabor
Pawlet village	E. Wallingford
Shrewsbury	Cuttingsville

Wells

Upper Valley RPC (7)

Thetford Ctr
North Hartland
Hartland Three Corners
Hartland Four Corners
Norwich
W. Hartford
Pompanoosic

Central Vermont RPC (26)

Waitsfield village	Roxbury
N. Montpelier	E. Montpelier Ctr
Woodbury	East Montpelier
East Calais	South Woodbury
North Calais	Maple Corner
Adamant	Cabot (& Lower Cabot)
Worcester	Putnamville
Middlesex	Middlesex Ctr
Moretown	Waterbury Ctr
N. Fayston	Duxbury
Washington	Orange (and E.Orange)
Warren	Irasville

Bennington County (22)

Dorset (& E. Dorset, So. Dorset & South Village)
So. Shaftsbury

No. Pownal	Rupert
Center Shaftsbury	W. Rupert
West Arlington	Peru
Sandgate	Landgrove
Sunderland	Stamford
Richville	Bondville

Barnumville
Arlington (and East Arlington)
Pownel (and Pownel Ctr)

Wastewater Treatment Capacity in Vermont's Unsewered Villages: Problems & Solutions

Unsewered Vermont

Approximately 25% of the US population and 33% of new development utilizes private, onsite sewage systems to collect, treat, and disperse of household and commercial wastewater.[1] In Vermont, these figures are substantially higher. As of July 2006, 70% of all 255 towns in Vermont still do not have a public wastewater treatment facility of any kind. While a small number of towns such as Burlington and South Burlington have wastewater treatment facilities that serve close to 100% of households and businesses, these are in the minority. Many of the public wastewater treatment facilities in Vermont do not serve all residents of the town in which they are located. For example, Hinesburg's wastewater treatment system only serves 28% of households. A larger town, such as Springfield, which has bigger treatment capacity, only serves 60% of households. As a result, over 44% of Vermont's population does not have access to public wastewater treatment.

Environmental and Public Health Hazard

Wastewater serves as an indicator of community health and livability. Failing septic systems are the second leading cause of groundwater pollution in the US, according to the EPA. With over half of the nation's onsite sewer systems over 30 years old, the EPA estimates that between 10% and 30% of onsite septic systems malfunction to some degree annually, even though it may not be apparent to the property owner. That percentage is higher in Vermont with terrain and soils that present more extreme challenges to onsite treatment than in neighboring states. In addition to failing onsite systems, Vermont still has many historic straight pipes, which discharge untreated sewage into the ground or nearby bodies of water. Both of these problems lead to contaminated lakes and streams, which are a public health risk, especially for vulnerable populations of elderly and children. Not only are the people using these natural resources for canoeing, fishing, or swimming at risk, but water bodies that are polluted by sewage threaten the integrity of private and public water supplies. In Warren, for example, in 1999 a test of drinking-water wells showed 30% contained coliform bacteria from human and animal waste contamination[2]. In 2006, water samples collected by the Mad River Watch[3] during the summer swimming months indicated that ...t

Unfortunately, state policies and programs that are created in reaction to health concerns over wastewater management are sometimes conducive to sprawl[4] and contradict the state's strong desire keep Vermont's rural character intact for future generations. For instance, onsite sewage treatment options have minimum acreage requirements that result in low density requirements.

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[1] http://www.nywea.org/clearwaters/05-fall/ManagedOnsite.pdf

[2] http://nasw.org/users/nbazilchuk/Articles/sewage.htm

[3] The Mad River Watch has been monitoring the water quality of the Mad River, along with the brooks and tributaries that flow into it for 18 years.

[4] http://www.vtsprawl.org/Initiatives/research/Exploring%20Sprawl/Newsletter4/DetailedResearch.htm

Smart Growth

Although primarily a rural state, Vermont's unique smart growth strategies have been at the national forefront for more than 30 years. The state's principal land use goal, developed in 1988, seeks to "plan development so as to maintain the historic settlement pattern of compact village and urban centers separated by rural countryside." In addition, many financial and technical assistance programs and incentives, including the Vermont Downtown Program, have been developed to encourage growth in designated downtowns, village centers, and new town centers. In fact, the state's Downtown Program has succeeded in bringing about significant restoration and revitalization in nearly 20 designated downtowns and over 40 village centers. In 2006, legislation was passed to build on those successes and encourage new, mixed-use, compact development in growth centers, in and surrounding Vermont's downtowns and villages.

While much of the literature on sprawl into rural America focuses on the rampant extension of public infrastructure outside of community centers leading to sprawling development patterns in rural areas, Vermont towns and villages face a distinctly different challenge. Despite important policy initiatives to foster smart growth, wastewater treatment capacity is a principal barrier to implementing Vermont's goal of reducing sprawl by encouraging more dense growth in downtowns, villages, and growth centers[5]. In fact, lack of centralized wastewater treatment facilities in many of these areas means that redevelopment of historic buildings, along with new housing and commercial development is dependent upon local soils to treat and discharge wastewater. However, in general, wastewater treatment and dispersal using on-site septic systems requires low densities, just the opposite of what Vermont towns are trying to achieve in their growth centers. As explained in more detail below, innovative onsite systems and decentralized wastewater management can be a flexible tool for integrating environmental protection, smart growth oriented land use planning, and wastewater treatment. The decentralized option enables communities to define their land use and environmental protection goals first and then develop wastewater management solutions to best serve those goals[6]. However, lack of understanding about the range of options to solve wastewater problems and lack of Federal and state funds limit the ability for Vermont villages to grow in a compact manner and to resolve the health issues related to failing onsite systems.

Centralized vs. Decentralized Options

Current public wastewater treatment understanding, resources, and practice in Vermont focus on centralized systems, which consist of direct connections by pipe of untreated sewage to a central treatment plant that generally discharges the treated water to a large body of water, such as a river (direct discharge), or to a large leachfield (indirect discharge). For example, nearly all residents in the cities of Burlington and South Burlington are served by centralized systems, and small towns such as Pownal and Cabot have elected to serve their village centers with such systems.

[5] Munson, Michael. "Implementing Growth Centers in Vermont: A View from the Towns." March 2006.
[6] http://www.asu.edu/caed/proceedings01/HOOVER/hoover.htm

With dwindling public funds, however, implementing centralized systems in many small Vermont towns and villages is proving to be too expensive. In fact, in 1997, the EPA "declared that the era of 'sewer everything' was over, [and] decentralized wastewater management had to form an integral part of the nation's means for dealing with sewage."[7] It is the opinion of the EPA that "adequately managed decentralized wastewater treatment systems can be a cost effective and long-term option for meeting public health and water quality goals, particularly for small suburban and rural areas."[8]

Decentralized wastewater management systems involve the centralized administration and management of one or more types of wastewater treatment systems, such as on-site septic tanks that serve individual homes and businesses, larger septic systems that serve a cluster of buildings on one or more properties, and traditional sewer systems with collection pipes, treatment, and soil-based disposal. The degree of collectivization at any stage of the collection, treatment, or dispersal processes is distinct to each community and depends on topography, site and soil characteristics, development density (existing and desired), type of development, community goals regarding land use, and points of allowable or beneficial discharge or reuse[9].

In towns that have adopted a decentralized management approach to wastewater treatment, long-term operation and maintenance is overseen by a management entity (municipality or special district). The extent of the management's oversight depends on the community, environmental sensitivity of the area, political and financial constraints, and the community's goals[10]. However, the usual activities include planning and administration, construction, operation, and maintenance of the treatment systems, and compliance with local, state and federal regulations and permits.[11] For example,....

In recent years, many communities across the country and in Vermont have studied the feasibility of centralized versus decentralized public wastewater management. In fact, the State of Vermont encourages the review of decentralized approaches in low-density settings in small and rural communities, and state funding of wastewater projects is only made available to towns that have investigated their decentralized options. However, few towns actively pursue their decentralized options due to public misconceptions and lack of familiarity with the concept. For example, Barnard, Underhill, Winhall, and Jamaica all recognize that growth in their village centers and the health of their community are compromised by current onsite treatment of wastewater. These four towns have used Municipal Planning Grants to complete very preliminary studies of their wastewater management options. While the concept of decentralized wastewater management is mentioned in these studies, decision makers in the town do not fully understand the benefit of this alternative or how to further pursue the option of decentralized wastewater management. This barrier is not unique to these towns or to Vermont, however. David Venhuizen, a pioneer in the field of decentralized wastewater

[7] http://www.jgpress.com/BCArticles/2001/050136.html
[8] http://www.asu.edu/caed/proceedings01/HOOVER/hoover.htm
[9] http://www.venhuizen-ww.com/
[10] Ibid.
[11] Management of Decentralized Waste Water Systems in Maine. Stone Environmental.

management concurs that "the biggest 'pro' of the conventional centralized concept is that it is accepted – despite its many flaws – as THE way to plan and implement 'organized' wastewater systems by all the institutions that deal with wastewater management, while the biggest 'con of the decentralized concept is that it is not accepted, in fact not even understood."[12] In an effort to shed some light on the applicability of decentralized wastewater management systems to Vermont towns, what follows is a brief description of the advantages and disadvantages of this form of wastewater management.

Advantages

1. **Treatment and Reuse of Wastewater Close to Source**
    a. Reduced costs due to lack of wastewater conveyance system
    b. Recharges local aquifers
    c. Provides water reuse opportunities for landscape irrigation, toilet flush supply, and cooling systems
2. **Dispersal of Treated Wastewater Under Ground Surface**
    a. Soil provides further treatment
    b. No discharge into surface waters
    c. Reduced treatment costs
    d. Less need for large disposal capacity
3. **Protects public health and environment**
    a. Addresses proper functioning of onsite systems and allows for use of advanced technology in a controlled setting
    b. Fewer leaks, clogging, and overflows than a centralized system due to use of effluent sewers and more fail safe treatment methods that prevent passage of poorly treated effluent
    c. Flows at any point in system are generally low so consequence of mishaps is smaller than with a centralized system
    d. Dispersed treatment centers lowers potential for bypasses
4. **Growth Neutral**
    a. Appropriate for low-density communities
    b. Capacity expansion tracts actual demand more closely than in centralized systems
    c. Scattered nature of compact development in rural village areas requires major infrastructure for collection via a centralized system
    d. Designed to meet current and modest growth needs of a community
    e. Appropriate for varying site conditions
    f. Suitable for ecologically sensitive areas
5. **Cost**
    a. Can be more cost-effective than centralized treatment facilities in areas with low development densities as few customers per length of pipe results in high user fees and capital recovery fees of a centralized system

Disadvantages

[12] Venhuizen, David. "Smaller Scale, Bigger Concept." http://www.venhuizen-ww.com

1. **Organizational Challenge**
    a. Setting up maintenance system to address multiple types of collection and treatment systems
2. **Engineering Fees**
    a. Often based on a percentage of project cost and thus are a disincentive for designing low-cost systems
3. **Fair User Fees**
    a. With a small percentage of property owners directly served by a decentralized system, distributing the costs can prove difficult

Below is a table describing several of the centralized and decentralized options that engineering consultants have presented to towns in Vermont at the feasibility stage in the last few years. It serves to illustrate what a decentralized wastewater management system might look like in Vermont towns.

Town	**Option 1**	**Option 2**	**Option 3**	**Option 4**
East Montpelier *Georgia* Historic Village and Town Center	**Centralized:** Connection to Wyeth Nutritionals existing wastewater facility (currently solely dedicated to industry wastewater treatment.) Significant investment would be required for construction of sewage collection infrastructure.	**Decentralized:** Management of individual onsite systems and offsite community cluster systems. Forty-seven of the existing village and town center properties are recommended for the offsite sewage disposal due to lot size and soil suitability, and three areas in town have been approved for the cluster disposal systems.	**No Management:** Continue with private installation, operation, and management of onsite systems. Mound systems would be required for most new development in historic village area due to soil suitability constraints, and property use may be restricted in some cases.	

Georgia Georgia Shore	**Centralized:** Connection to St. Albans City wastewater treatment facility for an allocation of 45,000 gallons. There is no assurance that the St. Albans facility has the adequate treatment capacity to allow Georgia Shores to connect.	**Decentralized:** The four areas of Georgia Shores would each receive their own treatment system, each utilizing Septic Tank Effluent Pumping System (STEP) systems. Three of these systems would need to be permitted under the Vermont Indirect Discharge Rules since their flows are greater than 6,500 gallons per day.	**Replacement/Best Fix - No Management:** Address failing systems on a property-by-property basis. 168 of the 325 parcels of Georgia Shore do not support on-site treatment. Replacement or best-fix options are the best solution if no centralized or decentralized approaches are implemented.	**Replacement/Best Fix - Management:** By creating a management entity, such as a fire district, this entity could develop a strategy for addressing wastewater management issues and collectively apply for state and federal funding.
Shaftsbury	**Centralized:** All wastewater from identified needs area collected via gravity sewers and force mains and pumped to the N. Bennington sewer treatment facility. Both a full build-out and scaled down system are presented.	**Decentralized:** Wastewater from cluster systems on town-owned properties and privately-owned properties, and replacement systems on school property is collected via gravity sewers and sent via pump stations to the N. Bennington treatment facility.		
Waitsfield				
Westford				
Wolcott				

What Communities Want and Need

Some towns in Vermont may have well-known sewage problems that must be addressed immediately to maintain public health standards. Other towns may not know which systems are failing and need to conduct an assessment to determine where repairs should be made. Yet other towns may be struggling to decide the next steps to take in their community's growth and land use patterns but lack of wastewater treatment capacity constrains their options.

The Vermont Agency of Natural Resources (ANR) and the Agency of Commerce and Community Development (ACCD) provides funding to towns to conduct feasibility and/or preliminary engineering studies to investigate the extent of existing sewage problems, future capacity needs, and possible options and related costs for solutions. The town can then decide whether to commission a more detailed engineering study

and move forward with the financing and construction of a project. Unfortunately, while numerous studies have been completed in towns across Vermont in the last decade, only seven successful projects have been implemented. In speaking with ANR staff and town officials, the primary reason implementation has not taken place is financial. For example, the town of Wolcott shelved the idea of a decentralized wastewater management system of four treatment clusters that would serve 80% of the wastewater needs in Wolcott Village and North Wolcott village as soon as their consulting engineer presented an estimated annual cost to each household in the town of $900 - $1,800.

Funding Wastewater Management Systems

In the 1960's and 1970's, few towns in Vermont took advantage of available Federal funding to build centralized wastewater treatment plants. That funding dried up in the 1980's and early 1990's[13]. Planning and implementation funds for both centralized and decentralized public wastewater treatment facilities have dwindled since then. While some public funds do exist[14], town residents, and especially potential users of a public facility, must foot much of the bill.

Although the annual household burden related to public wastewater management has averaged $400 over the last decadet, most towns now considering either a new centralized or decentralized management system must be prepared to require a minimum of $1,000 per household per year in user fees, even with grant funds and other sources of revenue covering part of the initial capital investmentt. As a result, many towns face insurmountable challenges in generating pubic support to finance a public wastewater facility. Even though property values are guaranteed to skyrocket as soon as public wastewater management takes placet, and can have the benefit of more than paying for the capital costs of implementing such a system, generally the only property owners who understand this value are commercial property owners, residents with currently failing onsite systems, and those who are looking to sell their property in the near future. Nonetheless, there are several alternatives to a town-wide tax to pay for the management of a public wastewater system, as described in Appendix C. t

The EPA has concluded that decentralized wastewater treatment systems can be an economically viable wastewater treatment solution for small communities, with some experts asserting that decentralized systems may be more affordable than centralized systems. However, others assert that while "decentralized management programs managing existing septic systems are more cost effective than sewers in communities of 100 or fewer users, where construction of new onsite or cluster systems is involved...the construction, operation, and maintenance costs may in some cases be comparable to the cost of constructing and operating a traditional [centralized] sewer system."[15]

Below is a table outlining the cost and funding sources of several wastewater management projects implemented in the last ten years and their accompanying

[13] http://nasw.org/users/nbazilchuk/Articles/sewage.htm

[14] See Appendix B for a table of potential Federal and State funding sources.

[15] http://www.asu.edu/caed/proceedings01/HOOVER/hoover.htm

funding sources (preceded by a very brief description of each project).

Town	Type of Project
Cabot	Centralized treatment facility with direct discharge into
Charlotte	Centralized treatment of pumped septage in Thompson's Point and indirect discharge into a sand filter / leachfield
Colchester	ANR funds borrowed by town and loaned to homeowners for onsite replacement systems
E. St. Johnsbury	Decentralized (individual and cluster systems) to fix immediate problem only (property values low in E. St. J due to lack of public sewer, rest of town not willing to be burdened by cost of serving them)
Pownal	Centralized treatment facility serving three village centers with direct discharge into the Hoosic River
Shoreham	Small collection system for village with diffused discharge
Warren	Decentralized demonstration project but no community systems in the end

Town	Projected Cost at Feasibility Stage	Final Cost	ERUs served	Final Cost Per ERU (rounded)	Funding Sources[t]
Cabot[t]					
Charlotte[t]					
Colchester					
East St. Johnsbury[t]		$500,000?	11		• $500,000 – EPA STAG Grant
Pownal[t]	$17.8 million (1998)	$29 million (2006)	700	$41,400	(As of 2/2006) • $7,410,000 – EPA STAG Grants • $8,640,240 – VT ANR CWSRF Grants • $796,756 – Misc. State Grants • $1.5 million – VCDP Grants • $300,000 – '01 VT Leg. Appropriation • $3.6 million – USDA/RD Grants • $2 million – Local Bond (RD Loan)
Shoreham[t]		$1.9 million?	70?		
Warren[t]	$4,585,000 (12/2001)	$4,660,000 (2006)	115	$40,500	• $1.5 million – EPA Demonstration Grants • $1,301,000 – EPA STAG Grant • $886,000 – VT ANR CWSRF Grant • $3,000 – VT Administration Grant • $830,000 – Local Bond (CWSRF Loan) • $125,000 – Town General Funds • $15,000 – Mad River Planning District

Since these projects have been implemented over the last ten years, and construction and maintenance costs are always rising, below is a table outlining the proposed costs of several projects still in the feasibility stage.

Town	Proposed Cost[16]

[16] Does not include maintenance and operation costs.

E. Montpelier	
Georgia Historic Village & Town Center	**Centralized** Historic Village: $6.5 million Town Center: $4,085,000 - $4,925,000 **Decentralized** Cost of individual onsite systems plus $835,000 for a 4,900 gpd cluster system that accommodates 20 residences (equivalent to $400 - $600/yr.) **No Management** $7,500 - $38,000 per residential unit for construction of individual onsite systems.
Georgia Georgia Shore	**Centralized** $3,000 per user in addition to construction cost totaling $8.3 million. **Decentralized** Four cluster systems: $10.5 - $11 million. **No Management** 280 properties need to be replaced or updated. Design for each system can range from $2,500 - $5,000 and construction can range between $7,500 for a conventional septic system to $38,000 for a multi-component system involving a septic tank, filtrate treatment, pump station, and mound disposal system.
Shaftsbury	**Centralized** 1. Full Wastewater Needs Met: $6,023,000 2. Village Center Only: $2,770,000 **Decentralized** 1. Full Wastewater Needs Met: $3,190,000 2. Village Center & Environmental Problems Solved: $1,840,000 3. Only Environmental Problems Solved: $1,385,000
Waitsfield	
Weston	
Wolcott	

From: "Elmer, Peg" <Peg.Elmer@state.vt.us>
To: "Michael Obuchowski" <OBIE@leg.state.vt.us>
Date: 12/22/2006 11:08 AM
Subject: RE: JFO #2283 - $30,000 Grant from the EPA to Protect WaterQuality
Attachments: Appendix D (FAA Town Comparison).doc; OnSiteSewageReformStudy.pdf; Summary Document 7.26.doc

CC: "Rebecca Buck" <RBUCK@leg.state.vt.us>, "Steve Klein" <SKLEIN@leg.state....

Dear Rep Obuchowski

Thank you for your interest and detailed questions. To answer your 3 questions:

1. Attached is an informal tally of unsewered villages which was developed with the help of the regional planning commission staff 10 yrs ago at the beginning of the sewage reform effort in the legislature. In the time since, only 5 villages have been able to move forward to address the issue -- Cabot, Shoreham, Pownal, Warren and E. St Johnsbury -- all with very large federal earmarks via Vt's congressional delegation

2. Cost. Attached are 2 documents. One is a comparison of costs among those recent projects. Pownal, which is a more than $30 million centralized treatment project now, is a spur behind requesting this grant from EPA, along with the knowledge that wastewater treatment capacity is a major deterrent to building densely in Vermont. The Dept was nudged to try to gain some resources to address the issue by both professional consultants and municipal officials who believe that decentralized solutions can often be more cost-effective, if local decision-makers can receive background information on their use and reliability in Vermont. They were requesting that state government do more to make that information available.

The other document is some background material collected by graduate interns on comparing centralized vs decentralized options (and I apologize if the columns aren't aligning - I see they are not on opening it up - it may not be that helpful on cost comparisons as a result but does offer some background information)

E. Montpelier is moving forward to investigate the decentralized approach right now. Jamaica has been increasingly open about its failures among its historic buildings and the need for a solution there. Grafton is also currently investigating an answer. These appear in our small municipal planning grants and some gain VCDP grants to do initial planning. We have a huge VCDP outlay to Pownal on their project but that system will serve enough users to bring the cost/user down to a comparable level

3. Impact on the Capital Bill. Uncertain. No impact in the short term. There is nowhere near enough funding available, federal or state, to cope with infrastructure needs across the board. It's a long-term, little-bit-at-a-time effort. Hopefully with this training, in the long term, Vermont will get more systems actually built while keeping the cost/user down, but probably only with continued significant federal earmarks. This is an educational project aimed at local decision-makers who often rely heavily on their professional consultant to provide them

with all the answers. The consultants are paid via a percentage of the project. We'd like to get the local legislative bodies asking tougher questions about a wider range of options that should lead them to smaller, de-centralized systems that cost less when those are applicable.

Please do not hesitate to contact me for more information.
Thank you!

Peg Elmer, AICP
VT DHCA Planning Director
National Life Bldg, Drawer 20
Montpelier, VT 05620-0501
802-828-5220

-----Original Message-----
From: Maria Belliveau [mailto:mbelliveau@leg.state.vt.us]
Sent: Friday, December 22, 2006 10:08 AM
To: Elmer, Peg
Cc: Michael Obuchowski; Rebecca Buck; Steve Klein
Subject: JFO #2283 - $30,000 Grant from the EPA to Protect WaterQuality

Hope all is well with you. The Joint Fiscal Committee received a request to approve a grant of $30,000 from the EPA to the Agency of Commerce and Community Development, Department of Housing and Community Affairs. Rep. Michael Obuchowski has a few questions regarding the grant as follows:

1. Please provide a list of the unsewered villages.
2. Has anyone estimated the cost that would be incurred to address these unsewered villages?
3. What is the projected impact of these unsewered villages on the Capital Bill?

Please respond directly to Rep. Obuchowski and copy me, Steve Klein and Rebecca Buck. Thank you for your help.

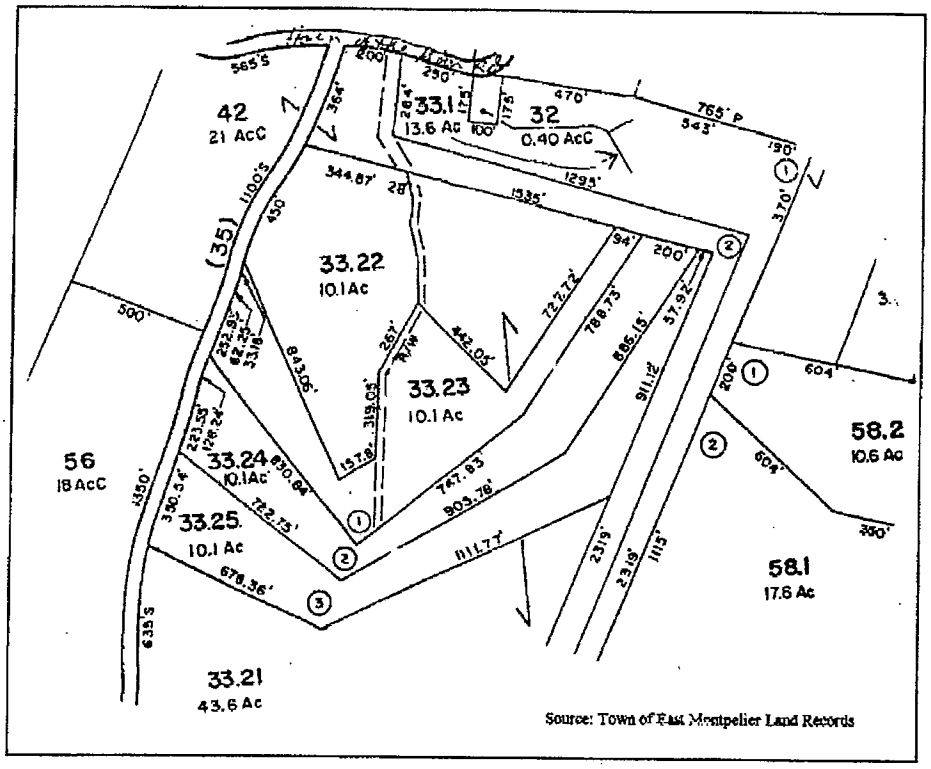
WASTEWATER SYSTEMS COMPARISON
NON-SEWERED VERMONT PROJECTS
(July 2006)

	Shoreham	Pownal	Cabot	Warren	East St. Johnsbury
1. Total Project Cost	$2,400,000	$29,000,000	$4,678,000	$4,350,000	$423,600
2. Equivalent Users (EU)	86	700	139	115	11
• Includes Elementary School?	Yes	Yes	Yes	Yes	No
3. Gross Cost per EU	$27,900	$41,400	$33,655	31,950	$38,500
4. Required Hook-up?	Yes	Yes	Yes	No	N/A
5. Distance: Required Hook-up	100'	200'	250'	N/A	N/A
6. • Estimated EU 1st Yr O&M Cost	$400	$400	$500 - $700 Range	$500	Individual On-Site Systems
• Loan Cost	$36	$80		$37	
Estimated EU 1st Yr O&M Cost Total:	$436	$480	$600	$537	
7. Connected Users to pay all?	No	No	Yes	No	Yes
8. Cost on Town Wide Tax	Yes 4.5¢ on Town Tax	Yes $76 Flat Tax per Parcel	No	Yes 1.7¢ on Town Tax	No
9. Local Share %	19%	7%	13%	21%	0%
10. State and Federal Grants %	81%	93%	87%	79%	100%
11. Estimated Operations Start-up Date	Jun, 2001	Aug, 2006	Dec, 2001	Oct, 2004	2003

Notes.
1. These five projects are similar in that they are: a) were originally all non-sewered rural Vermont communities; b) all have had long standing needs for acceptable wastewater disposal; c) all have need for large % of grant funds.

Prepared by Forcier Aldrich & Associates, Essex Jct., VT, 1-802-879-7733, DPhillips@forcieraldrich.com

ON-SITE SEWAGE REFORM
LAND USE IMPLICATIONS STUDY



Vermont Department of Housing and Community Affairs

January 1997

Produced by Peg Elmer with the assistance of Ela Abrams,
New England Board of Higher Education Intern for the summer of 1996

The Department gratefully acknowledges the assistance of the following who served as advisors to this project:

Michael Munson, Principal, RESV, Inc
Joanna Whitcomb, Planning Director, Mad River Valley Planning District
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Bernie Johnson, Special Assistant to the Secretary, Vermont Agency of Natural Resources
Steve Holmes, Deputy Director for Policy, Vermont Natural Resources Council
Karen Horn, Legislative Director, Vermont League of Cities & Towns
Greg Brown, Deputy Commissioner, Vermont Department of Housing & Community Affairs

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Dave Cotton, Wastewater Technologies, Inc.
Bruce Douglas, Stone Environmental, Inc.
Roger Thompson, Vermont Agency of Natural Resources
Craig Heindel, Nelson, Heindel & Noyes
Kevin Behm, Addison County Regional Planning Commission

Appendix VII – List of Unsewered Villages in Vermont*

Chittenden County (14)
Underhill Ctr
Underhill Flats to Jericho Corners
Jericho Ctr
Westford
Bolton
Huntington (lower and upper villages and Hanksville)
Mechanicsville
Charlotte (main village and East Charlotte)
St.George
Colchester (Malletts Bay area)

Lamoille County (8)
Cambridge
Eden (very tiny)
Elmore
Waterville
Wolcott
Belvidere Ctr.
N. Hyde Park
Moscow

Addison County (20)
Shoreham
Bridport
Addison
Panton
Starksboro
New Haven
Ripton
Salisbury
Goshen
Leicester
Whiting
Cornwall
Waltham
Weybridge
Ferrisburg (and N. Ferrisburg)
Monkton
Lincoln
Granville
E. Middlebury

Northeast Kingdom (35)
Albany
Barnet (Passumpsic and McIndoes)
Bloomfield
Burke (East and West)
Charleston (East and West)
Concord
Conventry
Craftsbury
Brownington
Holland
Greensboro
Groton
E.Hardwick
Irasburg
Lowell
Lunenburg
Maidstone (lakeshore)
Morgan (Seymour lakeshore)
Lemington
Sheffield
East St Johnsbury
Sutton
Walden Ctr
Lower Waterford
Westfield
Willoughby lakeshore
Wheelock
Norton
Peacham
Ryegate Ctr
Guildhall

*compiled with the assistance of the 12 regional planning commissions and the Vt DEC, this is not intended to be an exhaustive survey and did not include an evaluation of existing sewage problems or interest in further development.

Windham County (14)

Grafton	Townshend
Jamaica	Vernon
Londonderry	Wardsboro
Newfane	West Halifax
South Londonderry	Westminster
South Newfane	Dummerston
Marlboro	Williamsville

So. Windsor RPC (4)

Brownsville
Reading
Ascutney Village (resort is sewered)
Weston

Two-River Ottuaquechee RPC (14)

Fairlee	Pittsfield
S. Strafford	E. Randolph
Sharon	Stockbridge
Gaysville	West Fairlee
Hancock	East Brookfield
Strafford	Pond Village

Bridgewater Corners
Royalton village

Franklin/Grand Isle Counties (14)

Fairfield	Georgia
Isle La Motte	No. Hero
So. Hero	Grand Isle
Fletcher	Franklin
Highgate	Berkshire
Bakersfield	Montgomery
St. Albans Bay	E. Berkshire

Rutland County (16)

Sudbury	Tinmouth
Chittenden	Clarendon (two villages)
Danby	Danby Four Corners
Mt Holly	Middletown Springs
Belmont	Mt Tabor
Pawlet village	E. Wallingford
Shrewsbury	Cuttingsville

Wells

Upper Valley RPC (7)

Thetford Ctr
North Hartland
Hartland Three Corners
Hartland Four Corners
Norwich
W. Hartford
Pompanoosic

Central Vermont RPC (26)

Waitsfield village	Roxbury
N. Montpelier	E. Montpelier Ctr
Woodbury	East Montpelier
East Calais	South Woodbury
North Calais	Maple Corner
Adamant	Cabot (& Lower Cabot)
Worcester	Putnamville
Middlesex	Middlesex Ctr
Moretown	Waterbury Ctr
N. Fayston	Duxbury
Washington	Orange (and E.Orange)
Warren	Irasville

Bennington County (22)

Dorset (& E. Dorset, So. Dorset & South Village)
So. Shaftsbury

No. Pownal	Rupert
Center Shaftsbury	W. Rupert
West Arlington	Peru
Sandgate	Landgrove
Sunderland	Stamford
Richville	Bondville

Barnumville
Arlington (and East Arlington)
Pownel (and Pownel Ctr)

Background Information for EPA Grant Publication

Wastewater Treatment Capacity in Vermont's Unsewered Villages: Problems & Solutions

Unsewered Vermont

Approximately 25% of the US population and 33% of new development utilizes private, onsite sewage systems to collect, treat, and disperse of household and commercial wastewater.[1] In Vermont, these figures are substantially higher. As of July 2006, 70% of all 255 towns in Vermont still do not have a public wastewater treatment facility of any kind. While a small number of towns such as Burlington and South Burlington have wastewater treatment facilities that serve close to 100% of households and businesses, these are in the minority. Many of the public wastewater treatment facilities in Vermont do not serve all residents of the town in which they are located. For example, Hinesburg's wastewater treatment system only serves 28% of households. A larger town, such as Springfield, which has bigger treatment capacity, only serves 60% of households. As a result, over 44% of Vermont's population does not have access to public wastewater treatment.

Environmental and Public Health Hazard

Wastewater serves as an indicator of community health and livability. Failing septic systems are the second leading cause of groundwater pollution in the US, according to the EPA. With over half of the nation's onsite sewer systems over 30 years old, the EPA estimates that between 10% and 30% of onsite septic systems malfunction to some degree annually, even though it may not be apparent to the property owner. That percentage is higher in Vermont with terrain and soils that present more extreme challenges to onsite treatment than in neighboring states. In addition to failing onsite systems, Vermont still has many historic straight pipes, which discharge untreated sewage into the ground or nearby bodies of water. Both of these problems lead to contaminated lakes and streams, which are a public health risk, especially for vulnerable populations of elderly and children. Not only are the people using these natural resources for canoeing, fishing, or swimming at risk, but water bodies that are polluted by sewage threaten the integrity of private and public water supplies. In Warren, for example, in 1999 a test of drinking-water wells showed 30% contained coliform bacteria from human and animal waste contamination[2]. In 2006, water samples collected by the Mad River Watch[3] during the summer swimming months indicated that ...t

Unfortunately, state policies and programs that are created in reaction to health concerns over wastewater management are sometimes conducive to sprawl[4] and contradict the state's strong desire keep Vermont's rural character intact for future generations. For instance, onsite sewage treatment options have minimum acreage requirements that result in low density requirements.

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[1] http://www.nywea.org/clearwaters/05-fall/ManagedOnsite.pdf

[2] http://nasw.org/users/nbazilchuk/Articles/sewage.htm

[3] The Mad River Watch has been monitoring the water quality of the Mad River, along with the brooks and tributaries that flow into it for 18 years.

[4] http://www.vtsprawl.org/Initiatives/research/Exploring%20Sprawl/Newsletter4/DetailedResearch.htm

Smart Growth

Although primarily a rural state, Vermont's unique smart growth strategies have been at the national forefront for more than 30 years. The state's principal land use goal, developed in 1988, seeks to "plan development so as to maintain the historic settlement pattern of compact village and urban centers separated by rural countryside." In addition, many financial and technical assistance programs and incentives, including the Vermont Downtown Program, have been developed to encourage growth in designated downtowns, village centers, and new town centers. In fact, the state's Downtown Program has succeeded in bringing about significant restoration and revitalization in nearly 20 designated downtowns and over 40 village centers. In 2006, legislation was passed to build on those successes and encourage new, mixed-use, compact development in growth centers, in and surrounding Vermont's downtowns and villages.

While much of the literature on sprawl into rural America focuses on the rampant extension of public infrastructure outside of community centers leading to sprawling development patterns in rural areas, Vermont towns and villages face a distinctly different challenge. Despite important policy initiatives to foster smart growth, wastewater treatment capacity is a principal barrier to implementing Vermont's goal of reducing sprawl by encouraging more dense growth in downtowns, villages, and growth centers[5]. In fact, lack of centralized wastewater treatment facilities in many of these areas means that redevelopment of historic buildings, along with new housing and commercial development is dependent upon local soils to treat and discharge wastewater. However, in general, wastewater treatment and dispersal using on-site septic systems requires low densities, just the opposite of what Vermont towns are trying to achieve in their growth centers. As explained in more detail below, innovative onsite systems and decentralized wastewater management can be a flexible tool for integrating environmental protection, smart growth oriented land use planning, and wastewater treatment. The decentralized option enables communities to define their land use and environmental protection goals first and then develop wastewater management solutions to best serve those goals[6]. However, lack of understanding about the range of options to solve wastewater problems and lack of Federal and state funds limit the ability for Vermont villages to grow in a compact manner and to resolve the health issues related to failing onsite systems.

Centralized vs. Decentralized Options

Current public wastewater treatment understanding, resources, and practice in Vermont focus on centralized systems, which consist of direct connections by pipe of untreated sewage to a central treatment plant that generally discharges the treated water to a large body of water, such as a river (direct discharge), or to a large leachfield (indirect discharge). For example, nearly all residents in the cities of Burlington and South Burlington are served by centralized systems, and small towns such as Pownal and Cabot have elected to serve their village centers with such systems.

[5] Munson, Michael. "Implementing Growth Centers in Vermont: A View from the Towns." March 2006.
[6] http://www.asu.edu/caed/proceedings01/HOOVER/hoover.htm

With dwindling public funds, however, implementing centralized systems in many small Vermont towns and villages is proving to be too expensive. In fact, in 1997, the EPA "declared that the era of 'sewer everything' was over, [and] decentralized wastewater management had to form an integral part of the nation's means for dealing with sewage."[7] It is the opinion of the EPA that "adequately managed decentralized wastewater treatment systems can be a cost effective and long-term option for meeting public health and water quality goals, particularly for small suburban and rural areas."[8]

Decentralized wastewater management systems involve the centralized administration and management of one or more types of wastewater treatment systems, such as on-site septic tanks that serve individual homes and businesses, larger septic systems that serve a cluster of buildings on one or more properties, and traditional sewer systems with collection pipes, treatment, and soil-based disposal. The degree of collectivization at any stage of the collection, treatment, or dispersal processes is distinct to each community and depends on topography, site and soil characteristics, development density (existing and desired), type of development, community goals regarding land use, and points of allowable or beneficial discharge or reuse[9].

In towns that have adopted a decentralized management approach to wastewater treatment, long-term operation and maintenance is overseen by a management entity (municipality or special district). The extent of the management's oversight depends on the community, environmental sensitivity of the area, political and financial constraints, and the community's goals[10]. However, the usual activities include planning and administration, construction, operation, and maintenance of the treatment systems, and compliance with local, state and federal regulations and permits.[11] For example, ...

In recent years, many communities across the country and in Vermont have studied the feasibility of centralized versus decentralized public wastewater management. In fact, the State of Vermont encourages the review of decentralized approaches in low-density settings in small and rural communities, and state funding of wastewater projects is only made available to towns that have investigated their decentralized options. However, few towns actively pursue their decentralized options due to public misconceptions and lack of familiarity with the concept. For example, Barnard, Underhill, Winhall, and Jamaica all recognize that growth in their village centers and the health of their community are compromised by current onsite treatment of wastewater. These four towns have used Municipal Planning Grants to complete very preliminary studies of their wastewater management options. While the concept of decentralized wastewater management is mentioned in these studies, decision makers in the town do not fully understand the benefit of this alternative or how to further pursue the option of decentralized wastewater management. This barrier is not unique to these towns or to Vermont, however. David Venhuizen, a pioneer in the field of decentralized wastewater

[7] http://www.jgpress.com/BCArticles/2001/050136.html
[8] http://www.asu.edu/caed/proceedings01/HOOVER/hoover.htm
[9] http://www.venhuizen-ww.com/
[10] Ibid.
[11] Management of Decentralized Waste Water Systems in Maine. Stone Environmental.

management concurs that "the biggest 'pro' of the conventional centralized concept is that it is accepted – despite its many flaws – as THE way to plan and implement 'organized' wastewater systems by all the institutions that deal with wastewater management, while the biggest 'con of the decentralized concept is that it is not accepted, in fact not even understood."[12] In an effort to shed some light on the applicability of decentralized wastewater management systems to Vermont towns, what follows is a brief description of the advantages and disadvantages of this form of wastewater management.

Advantages

1. **Treatment and Reuse of Wastewater Close to Source**
   a. Reduced costs due to lack of wastewater conveyance system
   b. Recharges local aquifers
   c. Provides water reuse opportunities for landscape irrigation, toilet flush supply, and cooling systems
2. **Dispersal of Treated Wastewater Under Ground Surface**
   a. Soil provides further treatment
   b. No discharge into surface waters
   c. Reduced treatment costs
   d. Less need for large disposal capacity
3. **Protects public health and environment**
   a. Addresses proper functioning of onsite systems and allows for use of advanced technology in a controlled setting
   b. Fewer leaks, clogging, and overflows than a centralized system due to use of effluent sewers and more fail safe treatment methods that prevent passage of poorly treated effluent
   c. Flows at any point in system are generally low so consequence of mishaps is smaller than with a centralized system
   d. Dispersed treatment centers lowers potential for bypasses
4. **Growth Neutral**
   a. Appropriate for low-density communities
   b. Capacity expansion tracts actual demand more closely than in centralized systems
   c. Scattered nature of compact development in rural village areas requires major infrastructure for collection via a centralized system
   d. Designed to meet current and modest growth needs of a community
   e. Appropriate for varying site conditions
   f. Suitable for ecologically sensitive areas
5. **Cost**
   a. Can be more cost-effective than centralized treatment facilities in areas with low development densities as few customers per length of pipe results in high user fees and capital recovery fees of a centralized system

Disadvantages

[12] Venhuizen, David. "Smaller Scale, Bigger Concept." http://www.venhuizen-ww.com

1. **Organizational Challenge**
   a. Setting up maintenance system to address multiple types of collection and treatment systems
2. **Engineering Fees**
   a. Often based on a percentage of project cost and thus are a disincentive for designing low-cost systems
3. **Fair User Fees**
   a. With a small percentage of property owners directly served by a decentralized system, distributing the costs can prove difficult

Below is a table describing several of the centralized and decentralized options that engineering consultants have presented to towns in Vermont at the feasibility stage in the last few years. It serves to illustrate what a decentralized wastewater management system might look like in Vermont towns.

Town	**Option 1**	**Option 2**	**Option 3**	**Option 4**
East Montpelier *Georgia* Historic Village and Town Center	**Centralized:** Connection to Wyeth Nutritionals existing wastewater facility (currently solely dedicated to industry wastewater treatment.) Significant investment would be required for construction of sewage collection infrastructure.	**Decentralized:** Management of individual onsite systems and offsite community cluster systems. Forty-seven of the existing village and town center properties are recommended for the offsite sewage disposal due to lot size and soil suitability, and three areas in town have been approved for the cluster disposal systems.	**No Management:** Continue with private installation, operation, and management of onsite systems. Mound systems would be required for most new development in historic village area due to soil suitability constraints, and property use may be restricted in some cases.	

Georgia Georgia Shore	**Centralized:** Connection to St. Albans City wastewater treatment facility for an allocation of 45,000 gallons. There is no assurance that the St. Albans facility has the adequate treatment capacity to allow Georgia Shores to connect.	**Decentralized:** The four areas of Georgia Shores would each receive their own treatment system, each utilizing Septic Tank Effluent Pumping System (STEP) systems. Three of these systems would need to be permitted under the Vermont Indirect Discharge Rules since their flows are greater than 6,500 gallons per day.	**Replacement/Best Fix - No Management:** Address failing systems on a property-by-property basis. 168 of the 325 parcels of Georgia Shore do not support on-site treatment. Replacement or best-fix options are the best solution if no centralized or decentralized approaches are implemented.	**Replacement/Best Fix - Management:** By creating a management entity, such as a fire district, this entity could develop a strategy for addressing wastewater management issues and collectively apply for state and federal funding.
Shaftsbury	**Centralized:** All wastewater from identified needs area collected via gravity sewers and force mains and pumped to the N. Bennington sewer treatment facility. Both a full build-out and scaled down system are presented.	**Decentralized:** Wastewater from cluster systems on town-owned properties and privately-owned properties, and replacement systems on school property is collected via gravity sewers and sent via pump stations to the N. Bennington treatment facility.		
Waitsfield *Westford* *Wolcott*				

What Communities Want and Need

Some towns in Vermont may have well-known sewage problems that must be addressed immediately to maintain public health standards. Other towns may not know which systems are failing and need to conduct an assessment to determine where repairs should be made. Yet other towns may be struggling to decide the next steps to take in their community's growth and land use patterns but lack of wastewater treatment capacity constrains their options.

The Vermont Agency of Natural Resources (ANR) and the Agency of Commerce and Community Development (ACCD) provides funding to towns to conduct feasibility and/or preliminary engineering studies to investigate the extent of existing sewage problems, future capacity needs, and possible options and related costs for solutions. The town can then decide whether to commission a more detailed engineering study

and move forward with the financing and construction of a project. Unfortunately, while numerous studies have been completed in towns across Vermont in the last decade, only seven successful projects have been implemented. In speaking with ANR staff and town officials, the primary reason implementation has not taken place is financial. For example, the town of Wolcott shelved the idea of a decentralized wastewater management system of four treatment clusters that would serve 80% of the wastewater needs in Wolcott Village and North Wolcott village as soon as their consulting engineer presented an estimated annual cost to each household in the town of $900 - $1,800.

Funding Wastewater Management Systems

In the 1960's and 1970's, few towns in Vermont took advantage of available Federal funding to build centralized wastewater treatment plants. That funding dried up in the 1980's and early 1990's[13]. Planning and implementation funds for both centralized and decentralized public wastewater treatment facilities have dwindled since then. While some public funds do exist[14], town residents, and especially potential users of a public facility, must foot much of the bill.

Although the annual household burden related to public wastewater management has averaged $400 over the last decadet, most towns now considering either a new centralized or decentralized management system must be prepared to require a minimum of $1,000 per household per year in user fees, even with grant funds and other sources of revenue covering part of the initial capital investmentt. As a result, many towns face insurmountable challenges in generating pubic support to finance a public wastewater facility. Even though property values are guaranteed to skyrocket as soon as public wastewater management takes placet, and can have the benefit of more than paying for the capital costs of implementing such a system, generally the only property owners who understand this value are commercial property owners, residents with currently failing onsite systems, and those who are looking to sell their property in the near future. Nonetheless, there are several alternatives to a town-wide tax to pay for the management of a public wastewater system, as described in Appendix C. t

The EPA has concluded that decentralized wastewater treatment systems can be an economically viable wastewater treatment solution for small communities, with some experts asserting that decentralized systems may be more affordable than centralized systems. However, others assert that while "decentralized management programs managing existing septic systems are more cost effective than sewers in communities of 100 or fewer users, where construction of new onsite or cluster systems is involved...the construction, operation, and maintenance costs may in some cases be comparable to the cost of constructing and operating a traditional [centralized] sewer system."[15]

Below is a table outlining the cost and funding sources of several wastewater management projects implemented in the last ten years and their accompanying

[13] http://nasw.org/users/nbazilchuk/Articles/sewage.htm

[14] See Appendix B for a table of potential Federal and State funding sources.

[15] http://www.asu.edu/caed/proceedings01/HOOVER/hoover.htm

funding sources (preceded by a very brief description of each project).

Town	Type of Project
Cabot	Centralized treatment facility with direct discharge into
Charlotte	Centralized treatment of pumped septage in Thompson's Point and indirect discharge into a sand filter / leachfield
Colchester	ANR funds borrowed by town and loaned to homeowners for onsite replacement systems
E. St. Johnsbury	Decentralized (individual and cluster systems) to fix immediate problem only (property values low in E. St. J due to lack of public sewer, rest of town not willing to be burdened by cost of serving them)
Pownal	Centralized treatment facility serving three village centers with direct discharge into the Hoosic River
Shoreham	Small collection system for village with diffused discharge
Warren	Decentralized demonstration project but no community systems in the end

Town	Projected Cost at Feasibility Stage	Final Cost	ERUs served	Final Cost Per ERU (rounded)	Funding Sources
Cabot					
Charlotte					
Colchester					
East St. Johnsbury		$500,000?	11		• $500,000 – EPA STAG Grant
Pownal	$17.8 million (1998)	$29 million (2006)	700	$41,400	(As of 2/2006) • $7,410,000 – EPA STAG Grants • $8,640,240 – VT ANR CWSRF Grants • $796,756 – Misc. State Grants • $1.5 million – VCDP Grants • $300,000 – '01 VT Leg. Appropriation • $3.6 million – USDA/RD Grants • $2 million – Local Bond (RD Loan)
Shoreham		$1.9 million?	70?		
Warren	$4,585,000 (12/2001)	$4,660,000 (2006)	115	$40,500	• $1.5 million – EPA Demonstration Grants • $1,301,000 – EPA STAG Grant • $886,000 – VT ANR CWSRF Grant • $3,000 – VT Administration Grant • $830,000 – Local Bond (CWSRF Loan) • $125,000 – Town General Funds • $15,000 – Mad River Planning District

Since these projects have been implemented over the last ten years, and construction and maintenance costs are always rising, below is a table outlining the proposed costs of several projects still in the feasibility stage.

Town	Proposed Cost[16]

[16] Does not include maintenance and operation costs.

E. Montpelier	
Georgia Historic Village & Town Center	**Centralized** Historic Village: $6.5 million Town Center: $4,085,000 - $4,925,000 **Decentralized** Cost of individual onsite systems plus $835,000 for a 4,900 gpd cluster system that accommodates 20 residences (equivalent to $400 - $600/yr.) **No Management** $7,500 - $38,000 per residential unit for construction of individual onsite systems.
Georgia Georgia Shore	**Centralized** $3,000 per user in addition to construction cost totaling $8.3 million. **Decentralized** Four cluster systems: $10.5 - $11 million. **No Management** 280 properties need to be replaced or updated. Design for each system can range from $2,500 - $5,000 and construction can range between $7,500 for a conventional septic system to $38,000 for a multi-component system involving a septic tank, filtrate treatment, pump station, and mound disposal system.
Shaftsbury	**Centralized** 1. Full Wastewater Needs Met: $6,023,000 2. Village Center Only: $2,770,000 **Decentralized** 1. Full Wastewater Needs Met: $3,190,000 2. Village Center & Environmental Problems Solved: $1,840,000 3. Only Environmental Problems Solved: $1,385,000
Waitsfield	
Weston	
Wolcott	

Mailing Address:
1 Baldwin Street
Drawer 33
Montpelier, Vermont 05633-5701

Tel.: (802) 828-2295
Fax: (802) 828-2483

STATE OF VERMONT
JOINT FISCAL COMMITTEE
1 Baldwin Street
Montpelier, Vermont 05633-5701

MEMORANDUM

To: Joint Fiscal Committee Members
From: Maria Belliveau, Associate Fiscal Officer
Date: December 19, 2006
Subject: Grant Requests

Enclosed please find two (2) requests which the Joint Fiscal Office recently received from the Administration.

JFO #2283 - $30,000 grant from the Environmental Protection Agency (EPA) to the Agency of Commerce and Community Development, Department of Housing and Community Affairs. The purpose of this grant is to protect water quality by helping small communities in Vermont provide adequate wastewater treatment for their residents and businesses.
[JFO received 12/19/06]

JFO #2284 - $740,421 grant from the U.S. Department of Justice, Office of Community Oriented Policing Services (COPS) to the Department of Public Safety. This grant will be used to provide staff support for mobile data applications, the Department's access to the Vermont Law Enforcement Telecommunications System (VLETS) and the Vermont Incident Based Reporting System (VIBRS). This grant will also be used to purchase software to augment the mobile data project and to continue the purchase of the mobile wireless connections that provide mobile data services to the Vermont State Police.
[JFO received 12/19/06]

The Joint Fiscal Office has reviewed these submissions and determined that all appropriate forms bearing the necessary approvals are in order.

In accordance with the procedures for processing such requests, we ask you to review the enclosed and notify the Joint Fiscal Office (Maria Belliveau at 802/828-5971; mbelliveau@leg.state.vt.us or Stephen Klein at 802/828-5769; sklein@leg.state.vt.us) if you would like any item(s) held for Legislative review. Unless we hear from you to the contrary by January 2, 2007 we will assume that you agree to consider as final the Governor's acceptance of these requests.

cc: James Reardon, Commissioner
Linda Morse, Administrative Assistant
Kevin Dorn, Secretary
Kerry Sleeper, Commissioner

JFO# 2283

STATE OF VERMONT
GRANT ACCEPTANCE FORM

GRANT SUMMARY:	This grant from the Environmental Protection Agency (EPA) is to protect water quality by assisting small communities in Vermont provide adequate wastewater treatment through creating and distributing educational materials, identifying treatment alternatives and providing training.
GRANT TITLE:	Improving Wastewater Treatment Options for Vermont's Unsewered Villages
FEDERAL CATALOG No.:	66-110
GRANTOR / DONOR:	EPA New England 1 Congress Street, Suite 1100 Boston, MA. 02114-2023
DATE:	12/13/06
DEPARTMENT:	Agency of Commerce and Community Development- Department of Housing and Community Affairs
GRANT / DONATION:	The grant of $30,000 will be used to: 1.research, put together and distribute a report on the wastewater treatment problem and alternative wastewater treatment; 2. educate local decision-makers on t this issue through training and conference.
AMOUNT / VALUE:	$30,000.00
POSITIONS REQUESTED:	None
GRANT PERIOD:	10/1/06 to 9/30/08

COMMENTS: This grant includes an in-kind match from the state of $710.00, an in-kind match from other partners to this project of $12,600.00 and a cash match from these partners of $1,000.00. The match added to the $30,000 federal grant makes the total project cost $44,310.00.

DEPARTMENT OF FINANCE AND MANAGEMENT:	(INITIAL) 12/13/06
SECRETARY OF ADMINISTRATION	(INITIAL) 12-14-06
SENT TO JOINT FISCAL OFFICE:	DATE: 12/18/06

STATE OF VERMONT
REQUEST FOR GRANT ACCEPTANCE
(use additional sheets as needed)

FORM AA-1
(Rev. 9-90)

1. **Agency: Commerce and Community Development**
2. **Department: DHCA**
3. **Program: Planning**

4. **Legal Title of Grant: Improving Wastewater Treatment Options for Vermont's Unsewered Villages**
5. **Federal Catalog No.:66-110**
6. **Grantor and Office Address:**
   EPA New England
   1 Congress Street, Suite 1100
   Boston, Ma. 02114-2023

7. **Grant Period:** From: Oct. 1, 2006 To: Sept. 30, 2008

8. **Purpose of Grant:** (attach additional sheets if needed)
   The purpose of this $44,310 project paid for with the $30,000 EPA grant, as well as cash and in-kind from project partners, is to protect water quality by helping small communities in Vermont provide adequate wastwater treatment for their residents and businesses. The project will identify a range of treatment alternatives for small villages, create and distribute educational materials on these alternatives, and provide training to local, regional and state officials in their application.

9. **Impact on Existing Programs if Grant is not Accepted:**
   Vermont has a longtime goal of encouraging compact development, augmented most recently by legislation establishing the Growth Center Program. But 200+ villages in Vermont have no public wastewater treatment, and abundant failed private systems. The state promotes dense development but the infrastructure is missing to support it in many places. This is a small grant aimed at education and training to assist local decision-making critical to addressing the infrastructure gap.

10. **Budget Information:**

	(1st State FY) FY 2007	(2nd State FY) FY 2008	
EXPENDITURES:			
Personal Services	$ 23,550.00	$ 13,310.00	$
Operating Expenses	$ 450.00	$ 7,000.00	$
Loans/Grants	$	$	$
TOTAL	$ 24,000.00	$ 20,310.00	$
REVENUES:			
State Funds:			
Cash	$	$	$
In-Kind	$ 710.00	$	$
Federal Funds:			
(Direct Costs)	$ 15,000.00	$ 15,000.00	$
(Statewide Indirect)	$	$	$
(Department Indirect)	$	$	$
Other Funds (see attached project budget):			
inkind match from partners	$ 8,290.00	$ 4,310.00	$
cash match from partners		1,000.00	
TOTAL	**$ 24,000.00**	**$ 20,310.00**	**$**

	Amount
Deptid:7110010170 Fund: 22005	30,000.00
Deptid: 7110010170 Fund: 21525	1,000.00

-over-

11. **Will grant monies be spent by one or more personal service contracts?**

[x] YES [ ] NO

If YES, signature of appointing authority here indicates intent to follow current guidelines on bidding.

X Mary Dwyer, Deputy Commissioner for John Hall, Commissioner

12a. **Please list any requested Limited Service positions:**

Titles	Number of Positions
TOTAL Positions	0

12b. **Equipment and space for these positions:**

[ ] Is presently available.
[ ] Can be obtained with available funds.

13. **Signature of Appointing Authority**

I certify that no funds have been expended or committed in anticipation of Joint Fiscal Committee approval of this grant.

Mary Dwyer for John Hall, Commissioner
(Signature)

12/12/06 (Date)

Deputy Commissioner
(Title)

14. **Action by Governor:**

[✓] Approved
[ ] Rejected

(Signature) 12/15/06 (Date)

15. **Secretary of Administration:**

[ ] Request to JFO
[✓] Information to JFO

(Signature) 12-14-06 (Date)

16. **Action by Joint Fiscal Committee:** (Dates)

[ ] Request to be placed on JFC agenda
[ ] Approved (not placed on agenda in 30 days
[ ] Approved by JFC
[ ] Rejected by JFC
[ ] Approved by Legislature

(Signature) (Date)

RECD DEC 13 2006

VERMONT

State of Vermont
Department of Housing and Community Affairs
National Life Building, Drawer 20
Montpelier, VT 05620-0501
www.dhca.state.vt.us

[phone] 802-828-3211
[Department fax] 802-828-2928
[Historic Preservation fax] 802-828-3206

Agency of Commerce & Community Development

December 12, 2006

Michael K. Smith, Secretary
Agency of Administration
109 State Street
Montpelier, Vermont 05609-0401

Re: Request for Grant Acceptance Approval

Dear Secretary Smith,

The Department of Housing and Community Affairs (DHCA) is seeking approval to accept a $30,000 Healthy Communities grant from the U.S. Environmental Protection Agency. The products will be a publication and conference aimed at local decision-makers to "improve wastewater treatment options for Vermont's unsewered villages". The project will identify a range of treatment alternatives for small villages, create and distribute educational materials on these alternatives, and provide training to regional and local officials in their application.

Vermont has a longtime goal of encouraging compact development, augmented most recently by legislation establishing the Growth Center Program. However, more than 200 historic village centers in Vermont have no public wastewater treatment, and abundant failed systems. The state promotes dense development but the infrastructure is missing to support it in many places. In some cases, de-centralized systems can provide a more economic solution to the more standard, larger, centralized public wastewater systems. This is a small grant aimed at education and training on the range of solutions Vermont communities have put in place, to assist local decision-making critical to addressing the infrastructure gap.

DHCA's was one of twenty-two proposals selected for funding by the EPA Healthy Communities Grant Program from the one hundred fifteen they received. The $30,000 was the maximum that could be applied for. DHCA partnered on the proposal with the VT Department of Environmental Conservation (DEC), the Vermont Association of Planning and Development Agencies (VAPDA), the UVM Center for Rural Studies (CRS) and the Vermont Planners Association (VPA). DEC is offering technical assistance while VAPDA, CRS and VPA have offered in-kind project advice and training time. VAPDA and VPA also offered $1000 cash to cover part of the costs. With inkind and cash match, the project total is $44, 310. The partners make up a core advisory group, but broad participation from interested parties and technical experts will be included.

The grant period is 10/1/06 to 9/30/08. No work has gone forward on this, other than the proposal, as yet. It has been stalled due to staff being diverted to address unexpected demands of start up programs on ancient roads and growth center legislation, but those are now underway. The EPA

project officer was informed of the probable delay and she has responded that a later startup with the conference in the spring of '08 will be fine. Most of the project funds would be awarded to contracts, following Bulletin 3.5, to develop the publication. Please see attachments for more information on the project budget and deliverables.

Thank you for your attention to this matter. Please feel free to contact me directly at 828-5220 if you require further information or documentation.

Sincerely,

Peg Elmer

Peg Elmer, AICP
Director, Community Planning Program
VT Dept of Housing & Community Affairs

ATT:

- Application to EPA
- EPA award letter
- Partner letters

Attachment D: Budget Detail

Tasks	Type of Expenditure	In-kind Match	Cash Match	EPA Grant	Total
	Personnel				
1-4, 6, 9	DEC, VPA, VAPDA, UVM CRS, and advisory members - technical input, evaluative feedback, review of materials 360 hrs x $35/hr	$12,600			
2.	DHCA - finalize research and draft report Planning Director 80 hrs x $28.50			$2280	
9.	DHCA - finalize training materials, set up train the trainers and distribute Planning Director 80 hrs x $28.50	$710		$1570	
1, 3-6, 8, 10	DHCA Administration/Coordination - Grant Administration, committees coordination, contract oversight Planning Director 80 hrs x $28.50 - Contract oversight Planning Director 40 hrs x $28.50/hr - Conference logistics and conference workshop Planning Director 80 hrs x $28.50/hr			$2280 $1140 $2280	
	Subtotals	$13,310		$9550	$22860
10.	**Travel** - 2 EPA/Boston mtgs			$450	$450

4.	**Consultant contracts** - technical - editing - graphic design Subtotal			$8000 $2000 $4000 $14,000	$14,000
5. 6.	**Other** - printing 500 copies, color - conference site deposit/upfront costs VPA VAPDA Subtotal		$500 $500 $1000	$6000 $6000	$7000
	Totals	$13,310	$1000	$30,000	$44,310

Children First | Community Air Toxics Program | Indoor Air Quality Tools for Schools | Assistance & Pollution Prevention Schools Sector | Pesticides Program Asthma Program Toxics Program | Urban Environmental Program | Smart Growth | EPA Region 1, New England

July 11, 2006

Peg Elmer
VT Department of Housing & Community Affairs
National Life Building, Drawer 20
Montpelier, VT 05620-0501

Dear Peg:

We are pleased to inform you that we have selected your proposal for funding consideration under the 2006 Healthy Communities Grant Program. The quality of the full proposals this year was very high, and competition was intense. Of the one hundred and fifteen one-page proposals we received, fifty-eight submitted full applications, and twenty-two of these proposals were selected for funding consideration this year. Your proposal was excellent, and we look forward to working with you to achieve all of your project's goals and objectives.

We are able to provide $30,000 for your project titled "Improving Wastewater Treatment Options for Vermont Un-sewered Villages". The grants office is in the process of finalizing paperwork, and the EPA will make a formal press announcement of grant awards some time in the fall. We will be having a New Grantee Training Workshop on Tuesday, October 3, 2006 from 10:00 AM to 3:00 PM. The event will be held at the EPA New England's office at One Congress Street in Boston, Massachusetts, in the Training Room. This mandatory training will be an opportunity to review EPA's grant expectations and requirements, provide an overview of Federal grants management, talk with your project officer, and to have questions or concerns addressed. We strongly encourage that all key staff, including the project and financial manager, attend this training. You will be receiving further details as the date approaches.

Thank you for preparing such a strong project proposal for this competitive grant program and for serving as a role model for other environmental and public health projects in New England. If you have questions, please feel free to contact me at 617-918-1797 or by e-mail at Brownell.Sandra@epa.gov.

Sincerely,

Sandra L. Brownell

Sandra L. Brownell
Healthy Communities Grant Program
EPA, New England

U.S. ENVIRONMENTAL PROTECTION AGENCY

Cooperative Agreement

ASSISTANCE ID NO.			DATE OF AWARD
PRG	DOC ID	AMEND#	
HC -	97155001	- 0	9/18/06
TYPE OF ACTION: New			MAILING DATE: 9/25/06
PAYMENT METHOD: Advance			ACH#

RECIPIENT TYPE:
State

Send Payment Request to:
Region 1 - Grants Management Office

RECIPIENT:
Vermont D.H.C.A.
National Life Bldg. Drawer 20
Montpelier, VT 05620-0501
EIN: 03-6000274

PAYEE:
Vermont D.H.C.A.
National Life Bldg. Drawer 20
Montpelier, VT 05620-0501

PROJECT MANAGER	EPA PROJECT OFFICER	EPA GRANT SPECIALIST
Peg Elmer National Life Bldg. Drawer 20 Montpelier, VT 05620-0501 **E-Mail:** peg.elmer@state.vt.us **Phone:** 802-828-5220	Rosemary Monahan 1 Congress Street, Suite 1100, RAA Boston, MA 02114-2023 **E-Mail:** Monahan.Rosemary@epamail.epa.gov **Phone:** 617-918-1087	Janet Bartlett Grants Management Office , MGM **E-Mail:** Bartlett.Janet@epamail.epa.gov **Phone:** 617-918-1972

PROJECT TITLE AND DESCRIPTION
Improving Waste Water Treatment (WWT) Options for Vermont's Unsewered Villages
The goal of this project is to protect water quality by helping small communities in Vermont provide adequate wastewater treatment for their residents and businesses. The project will identify the most suitable wastewater treatment alternatives for small Vermont villages, create and distribute educational materials on these alternatives, and provide training to regional and state officials in their application.

BUDGET PERIOD	PROJECT PERIOD	TOTAL BUDGET PERIOD COST	TOTAL PROJECT PERIOD COST
10/01/2006 - 09/30/2008	10/01/2006 - 09/30/2008	$44,310.00	$44,310.00

NOTICE OF AWARD

Based on your application dated 05/23/2006, including all modifications and amendments, the United States acting by and through the US Environmental Protection Agency (EPA), hereby awards $30,000. EPA agrees to cost-share 67.70% of all approved budget period costs incurred, up to and not exceeding total federal funding of $30,000. Such award may be terminated by EPA without further cause if the recipient fails to provide timely affirmation of the award by signing under the Affirmation of Award section and returning all pages of this agreement to the Grants Management Office listed below within 21 days after receipt, or any extension of time, as may be granted by EPA. This agreement is subject to applicable EPA statutory provisions. The applicable regulatory provisions are 40 CFR Chapter 1, Subchapter B, and all terms and conditions of this agreement and any attachments.

ISSUING OFFICE (GRANTS MANAGEMENT OFFICE)	AWARD APPROVAL OFFICE
ORGANIZATION / ADDRESS	**ORGANIZATION / ADDRESS**
EPA New England 1 Congress Street, Suite 1100 Boston, MA 02114-2023	U.S. EPA, EPA New England 1 Congress Street, Suite 1100 Boston, MA 02114-2023

THE UNITED STATES OF AMERICA BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY

SIGNATURE OF AWARD OFFICIAL	TYPED NAME AND TITLE	DATE
	James T. Owens, III, Dir. Office of Administration and Resource Mgmt.	9/18/06

AFFIRMATION OF AWARD

BY AND ON BEHALF OF THE DESIGNATED RECIPIENT ORGANIZATION

SIGNATURE	TYPED NAME AND TITLE	DATE
	John S. Hall, Commissioner	10/2/06

EPA Funding Information

FUNDS	FORMER AWARD	THIS ACTION	AMENDED TOTAL
EPA Amount This Action	$	$ 30,000	$ 30,000
EPA In-Kind Amount	$	$	$ 0
Unexpended Prior Year Balance	$	$	$ 0
Other Federal Funds	$	$	$ 0
Recipient Contribution	$	$ 710	$ 710
State Contribution	$	$	$ 0
Local Contribution	$	$	$ 0
Other Contribution	$	$ 13,600	$ 13,600
Allowable Project Cost	$ 0	$ 44,310	$ 44,310

Assistance Program (CFDA)	Statutory Authority	Regulatory Authority
66.110 - Healthy Communities Grant Program	Clean Water Act: Sec. 104(b)(3) Safe Drinking Water Act: Sec. 1442(a)(b)	40 CFR PART 31

Fiscal

Site Name	DCN	FY	Approp. Code	Budget Organization	PRC	Object Class	Site/Project	Cost Organization	Obligation / Deobligation
-	AZC048	0607	B	01A	402MG3E	4183	-	-	30,000
									30,000

Budget Summary Page

Table A - Object Class Category (Non-construction)	Total Approved Allowable Budget Period Cost
1. Personnel	$22,860
2. Fringe Benefits	$0
3. Travel	$450
4. Equipment	$0
5. Supplies	$0
6. Contractual	$14,000
7. Construction	$0
8. Other	$7,000
9. Total Direct Charges	$44,310
10. Indirect Costs: % Base	$0
11. Total (Share: Recipient 32.30 % Federal 67.70 %.)	$44,310
12. Total Approved Assistance Amount	$30,000
13. Program Income	$0
14. Total EPA Amount Awarded This Action	$30,000
15. Total EPA Amount Awarded To Date	$30,000

APPLICATION FOR FEDERAL ASSISTANCE

Version 7/03

2. DATE SUBMITTED	Applicant Identifier
3. DATE RECEIVED BY STATE	State Application Identifier
4. DATE RECEIVED BY FEDERAL AGENCY	Federal Identifier

1. TYPE OF SUBMISSION:

Application	Pre-application
☐ Construction	☐ Construction
☑ Non-Construction	☐ Non-Construction

5. APPLICANT INFORMATION

Legal Name: VT Department of Housing & Community Affairs	Organizational Unit:
	Department:
Organizational DUNS: 137135021	Division: Planning Division
Address:	**Name and telephone number of person to be contacted on matters involving this application (give area code)**
Street: National Life Building, Drawer 20	Prefix: / First Name: Peg
City: Montpelier	Middle Name
County: Washington	Last Name Elmer
State: Vermont / Zip Code 05620-0501	Suffix:
Country: USA	Email: peg.elmer@state.vt.us
6. EMPLOYER IDENTIFICATION NUMBER *(EIN)*: 03-6000274	Phone Number (give area code) 802-828-5220 / Fax Number (give area code) 802-828-2928

8. TYPE OF APPLICATION:

☑ New ☐ Continuation ☐ Revision

If Revision, enter appropriate letter(s) in box(es) (See back of form for description of letters.) ☐ ☐

Other (specify)

7. TYPE OF APPLICANT: (See back of form for Application Types)

A

Other (specify)

9. NAME OF FEDERAL AGENCY:

US EPA

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER:

66-110

TITLE (Name of Program):

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:

Improving Wastewater Treatment Options for Vermont Un-sewered Villages

12. AREAS AFFECTED BY PROJECT *(Cities, Counties, States, etc.)*:

State of Vermont

13. PROPOSED PROJECT

Start Date:	Ending Date:
10/01/06	09/30/09

14. CONGRESSIONAL DISTRICTS OF:

a. Applicant	b. Project

15. ESTIMATED FUNDING:

a. Federal	$ 30,000.00
b. Applicant	$ 710.00
c. State	$ .00
d. Local	$ .00
e. Other	$ 13,600.00
f. Program Income	$ .00
g. TOTAL	$ 44,310.00

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?

a. Yes. ☐ THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON

DATE:

b. No. ☑ PROGRAM IS NOT COVERED BY E. O. 12372

☐ OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?

☐ Yes If "Yes" attach an explanation. ☐ No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT. THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.

a. Authorized Representative

Prefix	First Name John	Middle Name S.
Last Name Hall		Suffix
b. Title Commissioner		c. Telephone Number (give area code) 802-828-3211
d. Signature of Authorized Representative		e. Date Signed 5-23-06

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Standard Form 424 (Rev.9-2003)
Prescribed by OMB Circular A-102

SECTION C - NON-FEDERAL RESOURCES

(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8.	$ 710.00	$	$ 13,600.00	$ 14,310.00
9.				0.00
10.				0.00
11.				0.00
12. TOTAL *(sum of lines 8-11)*	$ 710.00	$ 0.00	$ 13,600.00	$ 14,310.00

SECTION D - FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	$ 27,355.00	$ 2,505.00	$ 1,140.00	$ 1,000.00	$ 22,710.00
14. Non-Federal	0.00				
15. TOTAL *(sum of lines 13 and 14)*	$ 27,355.00	$ 2,505.00	$ 1,140.00	$ 1,000.00	$ 22,710.00

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

(a) Grant Program	FUTURE FUNDING PERIODS (Years)			
	(b) First	(c) Second	(d) Third	(e) Fourth
16.	$ 2,645.00	$	$	$
17.				
18.				
19.				
20. TOTAL *(sum of lines 16-19)*	$ 2,645.00	$ 0.00	$ 0.00	$ 0.00

SECTION F - OTHER BUDGET INFORMATION

21. Direct Charges:	22. Indirect Charges:
23. Remarks:	

BUDGET INFORMATION - Non-Construction Programs

OMB Approval No. 0348-0044

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1.	66.110	$	$	$ 30,000.00	$ 14,310.00	$ 44,310.00
2.						0.00
3.						0.00
4.						0.00
5. Totals		$ 0.00	$ 0.00	$ 30,000.00	$ 14,310.00	$ 44,310.00

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY (1)	(2)	(3)	(4)	Total (5)
a. Personnel	$ 9,550.00	$ 13,310.00	$	$	$ 22,860.00
b. Fringe Benefits					0.00
c. Travel	450.00				450.00
d. Equipment					0.00
e. Supplies					0.00
f. Contractual	14,000.00				14,000.00
g. Construction					0.00
h. Other	6,000.00	1,000.00			7,000.00
i. Total Direct Charges *(sum of 6a-6h)*	30,000.00	14,310.00	0.00	0.00	44,310.00
j. Indirect Charges					0.00
k. TOTALS *(sum of 6i and 6j)*	$ 30,000.00	$ 14,310.00	$ 0.00	$ 0.00	$ 44,310.00
7. Program Income	$	$	$	$	$ 0.00

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Standard Form 424A (Rev. 7-97)
Prescribed by OMB Circular A-102

Previous Edition Usable

EPA

Washington, DC 20460

Preaward Compliance Review Report for All Applicants Requesting Federal Financial Assistance

FORM Approved
OMB No. 2030-0020
Expires 12-31-05

Note: Read instructions before completing form.

I. A. Applicant (Name, City, State)	B. Recipient (Name, City, State)	C. EPA Project No.
VT Dept. of Housing & Community Affairs	VT Dept. of Housing & Community Affairs	

II. Brief description of proposed project, program or activity.

Improving Wastewater Treatment Options for Vermont's Un-sewered Villages

III. Are any civil rights lawsuits or complaints pending against applicant and/or recipient? If yes, list those complaints and the disposition of each complaint.	☐ Yes ☒ No
IV. Have any civil rights compliance reviews of the applicant and/or recipient been conducted by any Federal agency during the two years prior to this application for activities which would receive EPA assistance? If yes, list those compliance reviews and status of each review.	☐ Yes ☒ No
V. Is any other Federal financial assistance being applied for or is any other Federal financial assistance being applied to any portion of this project, program or activity? If yes, list the other Federal Agency(s), describe the associated work and the dollar amount of assistance.	☐ Yes ☒ No

VI. If entire community under the applicant's jurisdiction is not served under the existing facilities/services, or will not be served under the proposed plan, give reasons why.

The entire community, being the state of Vermont, would benefit. "Currently served" data below are those ~~persons~~ homes served by public wastewater treatment

VII. Population Characteristics	Number of People
1. A. Population of Entire Service Area	623,050
B. Minority Population of Entire Service Area	19,083
2. A. Population Currently Being Served	252,696
B. Minority Population Currently Being Served	7,560
3. A. Population to be Served by Project, Program or Activity	346,680
B. Minority Population to be Served by Project, Program or Activity	10,400
4. A. Population to Remain Without Service	0
B. Minority Population to Remain Without Service	0

VII. Will all new facilities or alterations to existing facilities financed by these funds be designed and constructed to be readily accessible to and usable by handicapped persons? If no, explain how a regulatory exception (40 CFR 7.70) applies.	☒ Yes ☐ No

IX. Give the schedule for future projects, programs or activities (or of future plans), by which services will be provided to all beneficiaries within applicant's jurisdiction. If there is no schedule, explain why. Ongoing mission, as state agency, to (among other responsibilities) coordinate state housing programs, develop state land use policy, support local and regional planning and deliver programs to preserve health of VT's downtowns and village centers. Improving wastewater treatment options is key to all above.

X. I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

A. Signature of Authorized Official	B. Title of Authorized Official	C. Date
	Commissioner	5-25-06

For the U.S. Environmental Protection Agency

☐ Approved ☐ Disapproved	Authorized EPA Official	Date

HEALTHY COMMUNITIES GRANT PROGRAM - ONE PAGE PROJECT SUMMARY

I. APPLICANT INFORMATION: **VT Department of Housing & Community Affairs, Planning Division**
Project Title: **Improving Wastewater Treatment Options for Vermont's Un-sewered Villages**
Address: **National Life Bldg, Drawer 20, Montpelier, Vermont 05620-0501**
Project Contact Name(s): **Peg Elmer, Planning Director**
Telephone: **802-828-5220 Fax: 802-828-2928 Email Address:** peg.elmer@state.vt.us

2. SUMMARY BUDGET & PROJECT PARTNER INFORMATION

Dollar Amount Requested from EPA: **$30,000**
Matching Funds: **$14,310**
Dollar Amount of Total Project Budget (EPA + match): **$44,310**
Match as a Percentage of Total Budget: **33%**
List of Organizational Partners: **VT Dept of Environmental Conservation, UVM Center for Rural Studies, VT Planners Association, VT Association of Planning & Development Agencies. A broader Advisory Committee would include at least two principal consulting firms, VT League of Cities and Towns, VT Council on Rural Development, Lake Champlain Chamber of Commerce and more.**

3. PROJECT SUMMARY INFORMATION

A. The Problem: Vermont has more than 200 villages that have no public wastewater treatment, with abundant failures and historic straight pipes affecting water quality. Traditional centralized systems are too expensive to replicate in most small villages. Vermont is projected to experience disproportionate growth in elderly population in the next 30 yrs. Auto-dependent sprawl is particularly limiting for both the elderly and children, with resulting physical and mental health effects. Lack of understanding about and institutional resources for decentralized public systems limits the ability to resolve the problem of failed septic systems and is a significant barrier to implementing village growth centers in keeping with Vermont's smart growth goals.
The Project: Create a network of advisors and interested parties to help research the problem with accuracy. Utilize the network to create effective training products and venues to address the problem.
Goal: Improving institutional resources and acceptance of alternative design and financing options to correct failed systems and create capacity for dense, smart growth.
Tasks/Deliverables: Research and write a report defining the extent of the problem and barriers, identify other options to correct the pollution and create capacity, including a comparison of case study communities, organize statewide conference on alternative systems and smart growth strategies, create powerpoint road show aimed at public education and involvement to build an understanding of the problem (and its connection to smart growth), and continue education on decentralized wastewater treatment solutions.
Why Us: This Division coordinated a statewide coalition, the Vermont Onsite Sewage Committee, for 10 years that resulted in reform legislation. We initiated and currently coordinate a statewide Land Use Education & Training Collaborative, to leverage training opportunities aimed at municipal officials thru state agencies, regional planning commissions, non-profits and academic institutions. Private and municipal sectors are requesting our leadership to address the barrier of wastewater treatment capacity. As planners, we are catalysts in decision-making processes, aiming to create a broad, inclusive public process to gain accurate input and provide solid background information that can support strong local decision-making on identified solutions. A recent effort we led, on planning around highway interchanges (supported by an EPA Sustainable Communities Grant) won international smart growth recognition.
Targets Sensitive Populations: At the most basic public health level, the historic straight pipes and failed systems existing in VT villages present a health threat affecting the most vulnerable populations of elderly and children. Children, elderly and the disabled who don't drive are also severely limited in unhealthy ways by auto-dependent sprawl and would most benefit from pollution-free, walkable village environments. Wastewater treatment options are essential to such healthy village development patterns. We would document this and investigate issues such as the difficulty of gaining local voter approval for bonds to implement centralized wastewater treatment solutions.

B. Healthy Communities Target Program Areas:

Capacity Building on Environmental and Public Health Issues: A broad network of partners will be created to better understand and identify options and to develop and distribute training aimed at gaining institutional support for improved wastewater treatment capacity in Vermont's villages. Decision-makers at the community level will have better access to education and informational resources on the issue.
Smart Growth: Solving the wastewater treatment problem in villages is absolutely key to achieving Vermont's "smart growth" goal of encouraging growth to occur in and around downtowns and village centers. We have many incentives aimed at this goal in state policy, but inadequate wastewater treatment capacity in villages (and poor soils for new growth centers) is a principal barrier.
Short term measurable results: Outputs: Report defining scope of problem (including GIS analysis) and solutions, describing comparative community case studies, in highly-readable format for broad public distribution. Statewide conference for 300 people (open to all Northeastern states) on "alternative systems and smart growth", to include demonstrations and training for community officials. PowerPoint road show for distribution thru Education & Training Collaborative partners. Outcome: Education of general public as well as decision-makers on relationship of wastewater treatment capacity in villages, to improve both water quality and to smart growth, and creation of institutional resources to gain broader implementation of treatment capacity solutions.

Attachment B:
Project Narrative

A. The Organization

The Vermont Department of Housing & Community Affairs (DHCA) has a 15 year history of leading efforts at the state level to advance wastewater treatment infrastructure, support smart growth development, and improve our impaired water quality. We have the express mission, experience and capacity to organize and lead this project.

The mission of the DHCA is to further sustainable development of Vermont communities. This is accomplished through the Department's activities: awarding the federal Community Development Block Grants (CDBG) to municipalities; developing state land use policy; supporting local and regional planning; identifying and protecting historic and archeological resources; developing state housing policy and coordinating of state housing programs; and implementing programs to preserve the health of Vermont's downtowns and village centers.

The director of the DHCA Planning Division, Peg Elmer (administrator of this grant application), co-chaired a broad statewide coalition to reform the management of onsite wastewater and water supply systems. This effort resulted in legislation in 2002 that reformed Vermont's management of individual onsite wastewater systems. While policy is in place to support alternative wastewater systems, few have come to fruition, there has been very little progress in addressing lack of village infrastructure and there are repeated requests for the DHCA to again become involved in assisting communities on this issue.

DHCA excels at coordinating public process on a statewide level, developing effective training material and working with partners to distribute that material. DHCA currently coordinates the Vermont Land Use Education & Training Collaborative, which develops materials, organizes training venues and manages web links aimed at training municipal officials. The collaborative includes a variety of statewide governmental and non-profit organizations who include training of municipal officials in their mission.

DHCA also has an excellent track record in administering federal funding programs, including reporting and other requirments. The Department has dedicated accounting staff and software to track the approximately $20 million in federal and state funds that flows through DHCA to Vermont communities and organizations each year. DHCA served as the fiscal agent for federal FEMA disaster grants for many years, and successfully administered a multi-year EPA Sustainable Development Challenge Grant (2000 -04), DHCA has just been awarded $1million in funds from EPA for its brownfields program.

B. The Partners

DHCA has a track record of working actively with all of the proposed partners for this project. The current Secretary of the VT Agency of Natural Resources and Commissioner of the Department of Environmental Conservation have both pledged the support of their staff to this project. DHCA works with the other four organizations on a regular basis in administering our programs. As partners to this project their major roles are to provide DHCA with evaluative feedback to help shape and ensure the integrity of its elements and materials produced. It is necessary, in the furthering of our mutual

objectives in a small state with limited resources, that we support each other and maintain excellent working relationships.

The **Department of Environmental Conservation (DEC)** is a key partner, being the regulatory branch of state government which permits water supply and wastewater treatment systems. Their data, technical expertise and participation are essential to the accuracy and quality of training information provided, to an effective outcome of informed municipal decision-makers and to gaining more wastewater treatment capacity in Vermont's villages. The **Vermont Association of Planning and Development Agencies (VAPDA)** is the statewide association of regional planning commission directors. There is not a state planning office in Vermont. Instead, 11 regional planning commissions deliver planning and development services to Vermont's 250+ cities, towns and incorporated villages. In recent years state funds have been appropriated through DHCA to support the regional planning commissions' capacity to provide direct training to their communities in those communities. Busy local officials give clear feedback that this is their preferred mode of training, but it is intensive. VAPDA's role and inclusion for training distribution is key to successful internalization of the information by the people who will put it to best use. The **UVM Center for Rural Studies (UVM CRS)** administers the www.VPIC.info clearinghouse and other informational websites, census database and other information resources for local officials. Their websites are known by professional and lay planners as the first place to go when accessing data or training events. Their key roles are in providing data to this project and the central information clearinghouse for local decision-makers to access the resulting products and training opportunities. The Chair of the VT Education & Training Collaborative is the Outreach Coordinator for UVM CRS. The **Vermont Planners Association (VPA)** has taken a lead role for the last 15 years in promoting "growth centers" as a smart growth strategy in Vermont. The term "growth centers", defined in legislation this year, includes downtowns, new town centers and village centers. VPA is a membership organization supporting Vermont's professional planners, with an active membership and list serve discussion site for about 160 planners around the state.

In addition to partners, DHCA would create a broader advisory committee to the project. This addresses dual goals of both gaining valuable input from experts in a variety of sectors and gaining broader understanding within those sectors of the problem and opportunities for solutions. DHCA has agreed to be a partner to a project to improve the understanding of mobile home park residents of failed wastewater systems, knowing that project and this one are complimentary and not redundant in addressing the overall problems of failed systems in Vermont.

C. The Project Overview

This project seeks to educate local decision-makers about the urgent need to address wastewater treatment in Vermont's villages as a method for environmental improvement and smart growth development. The project will empower decision-makers by highlighting the range of feasible options for public wastewater treatment. This will be achieved through the production of an easy-to-absorb, graphics-rich publication explaining wastewater treatment problems, solutions and financing opportunities. Outreach and training of the decision-makers will be achieved through extensive work with project partners through the Vermont Education & Training Collaborative. Finally, education on this important topic will extend to our networks throughout New England through a regional conference to address this important environmental, public health and economic development issue. We are familiar with similar work in Maine and Rhode Island, and the consultants involved, and would utilize and build on those. Vermont decision-makers will want to hear about Vermont case studies. The project goal is to involve and reach busy municipal decision-makers, to help them find cost-effective resolution of wastewater treatment problems in Vermont villages in order to grow in a compact manner.

Target Program Area - Smart Growth:
Vermont's unique smart growth strategies in regulation and incentives have been at the national forefront for more than 30 years. The state's principle land use goal (1988) seeks to encourage growth in existing downtowns and villages surrounded by a rural working landscape. The state's Downtown Program (1994) has succeeded in significant restoration and revitalization of 20 designated downtowns. Landmark new "growth centers" legislation was recently passed to build on those successes and encourage new mixed use, compact development within or surrounding our downtowns and villages.

In spite of important policy initiatives, wastewater treatment capacity is a principal barrier to implementing Vermont's smart growth goal of reducing sprawl by encouraging more dense growth in downtowns, villages or new town centers. More than 200 villages in Vermont, and greater than 50% of Vermont's population, lack public wastewater treatment. This results in concurrent problems of failed wastewater systems and significant constraints to redevelopment of historic buildings for public use and to growth. There remain historic "straight (untreated sewer) pipes". Vermont's villages are the key to the state's smart growth strategy, but the wastewater treatment problem will have to be solved.

Current wastewater treatment understanding, resources and practice in local Vermont decision-makers is aimed primarily at centralized systems. Yet centralized systems are proving too expensive to replicate in the tiny economies of Vermont's villages. Vermont needs to promote the full range of options to include de-centralized systems, and financing strategies. Municipal leaders need to learn about successful case studies of alternative wastewater systems in order to support smart growth in Vermont's villages.

Target Investment Area - Sensitive Populations
Vermont's sprawling pattern of land use and development has a profound impact on our most vulnerable populations of elders and children. Vermont's over-70 population "living in areas without public sewer" increased 34% between 1990 and 2000. Vermont is projected to gain a disproportionate share of elders over the next 30 yrs, moving from the middle range nationally to the top 10. Children, elderly and the disabled, who don't drive, are severely limited in unhealthy ways by auto-dependent sprawl. These vulnerable populations would most benefit from pollution-free villages with services and activities in walking distance. State policy promotes the location of public services serving elderly and children (such as schools, churches, daycares and senior centers) in village centers but lack of wastewater treatment capacity leads to sprawling locations. DHCA is a partner in Vermont's "Fit and Healthy" and "Safe Routes to School" programs, and would connect this project in with those organizations representing elderly and children. The information from this project would be shared through those associations with the stakeholders.

At the most basic public health level, the historic straight pipes and failed systems existing in Vermont's villages present a health threat affecting the most vulnerable populations of elderly and children. While Vermont has instituted policy changes to encourage future growth in downtowns and villages, lack of understanding about infrastructure constraints and the range of options to solve the problem limit the ability for Vermont's villages to grow in a compact manner and to resolve the problem of failed septic systems. Terrain and soils present more extreme challenges to onsite treatment than in our neighboring states. On average, one third of the individual onsite systems constructed each year are replacements of failed systems. Without addressing these problems, Vermont will have increasing failed systems and related public health problems, reduced water quality, and an increasingly auto-dependent form of development. These challenges will fall most heavily upon our most vulnerable populations.

Target Program Area - Capacity Building on Environmental and Public Health Issues:
In order to improve the environmental and public health issues surrounding wastewater treatment in Vermont's villages, this project's goal is to inform and empower decision-makers at the municipal level. To address local capacity-building, DHCA organized the Education and Training Collaborative several years ago to focus on improving local land use decision-making. This includes a collection of professional, regional and municipal planners, academic institutions, municipal associations and advocacy organizations. The primary purpose of the collaborative is to coordinate training resources for local land use officials in Vermont. The Collaborative network has markedly improved the efficiency, effectiveness, availability and quality of municipal training. This project would shift some of the Collaborative's focus on basic planning and zoning principles to create institutional support to help decision-makers better understand and identify construction, maintenance and financing options to help gain voter support for improved wastewater treatment capacity in Vermont's villages.

In addition, the project will bring together a broad network of partners (listed above) and other advisors to serve as members of the advisory committee. This will ensure that attention to this issue will be integrated at all levels of government, as well as across the different sectors and disciplines within the state.

D Project Deliverables and Results

The project will result in a publication defining the scope of the problem (including GIS analysis) and options for solutions, including comparative community case studies, in highly-readable format, accessible to a lay audience. This publication will be broadly distributed state-wide, in hard copy, and via internet, to the intended audience – local decision makers. The information will also be developed into a power point presentation which will be used in a "road show" utilizing trainers affiliated with the Education & Training Collaborative. Based on feedback, it is the collaborative's assessment that the "road show" outreach format is the best training venue for the intended audience – rather than expect them to attend a workshop outside of their regular meeting location and time.

A second output will be a statewide conference for approximately 300 people (open to all Northeastern states) on "alternative systems and smart growth". This will include demonstrations and training for community officials and the broader interested public.

The intended outcome is to educate, inform and empower the general public and decision-makers on the critical need to address wastewater treatment in villages solutions and the solutions available.

This project will result in broader implementation of improvements to water quality and public health and will lead to a future in which compact, mixed use development patterns can actually be implemented, rather than sprawl. This project will inevitably improve public understanding of a critical problem and lead to new tools for environmental improvement and sustainable economic development.

E. Project Evaluation

The partners and advisors to the project will serve as the major guide to the project's effective implementation. Regular mtgs will provide evaluative feedback on progress. DHCA will keep track of the numbers of people being reached thru the training. In addition, DHCA will include actual evaluation surveys on the products: the report, conference and trainings. UVM CRS is the leading state entity in design and implementation of surveys and is offering that service, if needed, as a partner. We would ask the local officials if the material is helpful and re-shape the training according to feedback. Starting with

a baseline of the current problem and past rate of new public systems being constructed, DHCA will keep track of progress toward implementation of more public wastewater treatment systems.

F. Budget

This project would provide significant ammunition in Vermont's continued battle on the wastewater front. It is part of a long, on-going effort to make sound decisions on wastewater infrastructure that will best support public health, sustainable growth patterns and which can be supported financially by our taxpayers. It has been 10 years since organizations have come together and funding has been made available to assess the problems and possible solutions. At that time DHCA gained a small grant of National Onsite Demonstration funding from the National Small Flows Clearinghouse which provided a major step forward in galvanizing statewide understanding of alternative systems and helped the reform happen. There has been no coordinated effort since that time to educate municipal officials about alternative systems that might enable appropriate growth and development. Without this grant, information on this important topic will not be disseminated to those most responsible for effecting needed changes. DHCA actively looks for outside opportunities to assist in addressing needs, and this is the only source that has been made available in a long time.

DHCA is familiar, from its own experience in providing grants, with how small amounts of money offered as grant funding can leverage and channel the energy of existing organizations to accomplish mutual goals. That would be precisely the case on this project. DHCA has many responsibilities and few resources. This also characterizes our partners. This grant, if awarded, would be the impetus for Vermont to direct efforts to address a difficult barrier to achieving smart growth in this state. Simply the availability of the Healthy Communities Program has spurred some background research (which could be used for the proposed publication). This grant funding will broaden the effort to gain further background material on the larger issue of un-sewered villages statewide, and to extend the information to the audience that most needs the information.

This project will be seed funding for ongoing outreach work to be conducted by the Education and Training Collaborative. There is much work that will be done to supplement this project, such as research before and training after, which will be accomplished with existing staff at DEC, project partners and advisors – but those in-house resources would be devoted to other needs without the spark of this funding to get it focused and keep it moving to fruition. Funds to transform that background research into polished training products are not available and would not be possible without this grant. The need to get the information to local decision-makers, the town selectboard and city council members to improve our wastewater treatment infrastructure, is a key foundation to so many of our community development goals. These community volunteers are often very busy, and without the time, resources, or access to critical information that is necessary to impact their decisions on provision of public wastewater treatment systems. Once created, the training materials will be in use for years.

Attachment C: Project Schedule

Task Description	Contact person	Date Completed	Deliverables
1. Set up Advisory Committee - invite members - set mtg schedule - hold first mtg to describe project and get input/feedback on problem definition, solutions and examples for case studies	Peg Elmer	October '06	10-15 project advisors providing geographic, interest and sector diversity to assist in setting scope, content, distribution and evaluative feedback for the project
2. Finalize and present research on status of water supply and wastewater treatment options for Vt's villages - complete review of data by partners and advisors - define scope of the problem - describe range of solutions - finalize details of case studies - pursue additional info suggested as needed, if possible	Peg Elmer	January '07	Draft report defining scope of the problem, describing possible solutions and providing case study scenarios with financing comparisons
3. Develop and distribute a Request for Proposals from consultants for technical, editorial and graphic content of report - develop list of possible consultants in those 3 areas of expertise - recruit a review team - develop distribution network for the RFP thru professional listserve/websites	Peg Elmer	March '07	Request for Proposals Broad advertisement of the RFP Proposals received and reviewed
4. Award consultant contract(s) to produce report - develop objective review sheet and distribute to review team, compare notes, select consultant - gain signed contract with internal deadlines - maintain review team for comments on draft	Peg Elmer	May '07	Consultant team and review team on task

5. Final Report to Printer - determine # of print copies needed - develop online version and post to websites - distribute RFP for printing - award and contract	Peg Elmer	September '07	Highly readable, graphic report distributed in print version for at least 250 municipalities, posted on Department website and linked to from VPIC.info and other related websites
6. Set up Conference - create conference planning committee - set date and place, budget and principal speakers - invite exhibitors - design brochure and distribute	Peg Elmer	~~August~~ '07 April - Aug	Broad advertisement of conference on decentralized wastewater solutions and financing comparisons to local decision-makers and technical professionals in the Northeastern United States
7. Conference registration	Jessica Hill/VLCT	October '07	About 300 attendees (municipal decision-makers and technical professionals) newly inspired by possible solutions for un-sewered villages and smart growth
8. Conference - include evaluation survey - include workshop on report information - develop powerpoint training based on report for that workshop and request feedback for further training	Peg Elmer	October '07	List of attendees, speakers, exhibitors Evaluation returns Reach about 500 people
9. Finalize, promote, and distribute power point presentation and onsite demonstration training - revise presentation based on evaluative feedback - set up schedule for trainings thru partners and advisors - train the trainers - conduct training of local officials	Peg Elmer	October '08	Provide training and background materials to decision-making local officials of at least 100 municipalities with un-sewered villages
10. Grant Administration	Peg Elmer	October '08	Provide quarterly and final reports and deliverables to EPA

Attachment D: Budget Detail

Tasks	Type of Expenditure	In-kind Match	Cash Match	EPA Grant	Total
	Personnel				
1-4, 6, 9	DEC, VPA, VAPDA, UVM CRS, and advisory members - technical input, evaluative feedback, review of materials 360 hrs x $35/hr	$12,600			
2.	DHCA - finalize research and draft report Planning Director 80 hrs x $28.50			$2280	
9.	DHCA - finalize training materials, set up train the trainers and distribute Planning Director 80 hrs x $28.50	$710		$1570	
1, 3-6, 8, 10	DHCA Administration/Coordination - Grant Administration, committees coordination, contract oversight Planning Director 80 hrs x $28.50			$2280	
	- Contract oversight Planning Director 40 hrs x $28.50/hr			$1140	
	- Conference logistics and conference workshop Planning Director 80 hrs x $28.50/hr			$2280	
	Subtotals	$13,310		$9550	$22860
10.	**Travel** - 2 EPA/Boston mtgs			$450	$450

4.	**Consultant contracts** - technical - editing - graphic design Subtotal			$8000 $2000 $4000 $14,000	$14,000
5. 6.	**Other** - printing 500 copies, color - conference site deposit/upfront costs VPA VAPDA Subtotal		$500 $500 $1000	$6000 $6000	$7000
	Totals	$13,310	$1000	$30,000	$44,310

Resume

PEG ELMER, AICP
Planning Director, Vermont Department of Housing & Community Affairs
National Life Building, Drawer 20, Montpelier, VT 05620-0501
802-828-5220 peg.elmer@state.vt.us

Education: '97 Associate, Leadership Institute, Snelling Center for Government
AICP, American Institute of Certified Planners
M.C.P. (Master of Community Planning), 1976, University of Rhode Island
B.S. 1974, Natural Resource Management, University of Rhode Island

Work Experience:

1998-present: **Director**, Community Planning Program, **VT Department of Housing & Community Affairs** in the Agency of Commerce and Community Development. Manage a Division responsible for administering $3.5 million in state community planning funds, up to $13 in federal disaster funds, and guiding state land use policy. **Responsible for coordinating education and training for local volunteers through publications, websites and conferences. Accomplishments have gained national "smart growth" recognition.**

1993-1998 Coordinator, Community Planning Program, VT Department of Housing & Community Affairs. **Co-chaired Vermont Onsite Sewage Committee** for 5 years, including gaining federal demonstration grants, managing consultant contracts and guiding controversial legislation. Coordinated Growth Centers Pilot Project. Shared responsibility for administering state community planning funds and federal housing and community development funds.

1989-1993 Director, Land Use Policy Program, Vermont Natural Resources Council. Responsible for directing the organization's education and advocacy on state land use policy; included being a registered lobbyist and organizing conferences, workshops and publications as well as directing the Action Center to provide assistance to citizens getting involved in local, regional or state land use decision-making.

1987-1989 **Assistant to the Secretary, VT Agency of Natural Resources.** Included staffing the Governor's Commission on Vermont's Future, which led to Act 200; staffing the New England Governor's Conference on land conservation initiatives; and coordinating Vermont's part of the first international agreement on the management of Lake Champlain.

1985-1987 District Coordinator, VT Environmental Board. Regional administration of Act 250.

1981-1985 Town Planner/Zoning Administrator, Jericho, Vermont. **(included review of onsite wastewater system application, inspections, permits and enforcement)**

1979-1981 Town Planner/Zoning Administrator, Shelburne, Vermont. **(included review of onsite wastewater system application, inspections, permits and enforcement)**

1976-1978 Consultant Planner and Co-Manager (w/husband) of Trackmaster, an outdoor environmental education and ski touring center.

NGO Board of Directors Experience:

Northern New England Chapter of American Planning Association (Vermont Representative, elected by membership), 2003-present. (Includes chairing major New England professional conference); Vermont Planners Association Executive Committee

Association of VT Conservation Commissions, founding director and President, Board of Directors, 1991-2001

Vermont Earth Institute, 2001-2003
Cross Vermont Trail, present
Central VT Council on Aging, Advisory Committee, present
Rte 2 Citizens Alliance, founder 1991 to present

Other Community Service:

Town of Cabot: Conservation Commission (long time to present, including being Co-Chair), **Wastewater Task Force** (past), Development Council founding director and Vice-Chair (past), UDAG Committee (past, elected position administering $2 million community fund), Planning Commission (past, Vice-Chair)

Regional: Central Vermont Regional Planning Commission (past Vice-Chair), 1996 Democratic candidate for Wash-Caledonia seat in Vermont House of Representatives; Central VT League of Women Voters Executive Committee (present)

VAPDA The Vermont Association of Planning & Development Agencies

P.O. Box 320
Ascutney, VT 05030

Tel (802) 674-9201
FAX (802) 674-5711

May 23, 2006

Ms. Peg Elmer, AICP, Planning Director
VT Department of Housing and Community Affairs
National Life Bldg, Drawer 20
Montpelier, VT 05620-0501

Dear Peg:

This letter supports the Application from the Vermont Department of Housing & Community Affairs for funds from the Healthy Communities Grant Program. The Vermont Association of Planning and Development Agencies is pleased to be an organizational partner and is prepared to provide $500 cash match in support of the project, as well as extensive in-kind participation in the development of the project, and participation on the steering and advisory committees. In addition, we would co-sponsor the statewide conference, and assist in the distribution of the training materials.

Formed in 1968, the Vermont Association of Planning and Development Agency's [VAPDA] primary purpose is to enhance the effectiveness of the Regional Planning Commissions in carrying out their duties detailed in the Vermont Planning and Development Act. Particularly, the eleven Regional Planning Commissions provide assistance, information, and training to all Vermont municipalities on municipal planning, land use, zoning, emergency management, transportation, housing, infrastructure improvements, economic and community development, and protection of natural resources and, regionally, identify and address regional land use, transportation, emergency management and community development issues. VAPDA's members are recognized by State Agencies as having the capacity to interact with all of the state's communities.

VAPDA members, with long experience in the training and education of local officials, are well placed to be the key distributional network to get the education information resulting from the project to the local decision-makers to develop a better understanding of how the alternatives for correcting failed systems can create capacity for denser growth.

We look forward to working with you and others involved on this very important effort.

Sincerely,

(for Tom Kennedy)

Thomas Kennedy, Chair
VAPDA Executive Directors

State of Vermont

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation

Department of Fish and Wildlife
Department of Forests, Parks and Recreation
Department of Environmental Conservation
State Geologist
RELAY SERVICE FOR THE HEARING IMPAIRED
1-800-253-0191 TDD>Voice
1-800-253-0195 Voice>TDD

Office of the Commissioner
103 South Main Street
Building 1 South
Waterbury, VT 05671-0401
http://www.anr.state.vt.us/dec/dec.htm

Phone: (802) 241-3808
Fax: (802) 244-5141

May 24, 2006

Peg Elmer, Planning Director
VT Department of Housing & Community Affairs, Planning Division
National Life Bldg, Drawer 20
Montpelier, VT 05620-0501

Dear Ms. Elmer:

This letter represents a firm commitment on behalf of the Vermont Department of Environmental Conservation (DEC) to support the VT Department of Housing & Community Affairs' proposal for 2006 EPA Healthy Communities Program grant. Staff from both the Wastewater Management Division and the Facilities Engineering Division will contribute their time and expertise as members of the project's steering committee; as reviewers of the written materials that will be developed as part of the community outreach effort; as contributors to the report that will focus on growth problems small un-sewered communities are facing; and as possible presenters at the proposed statewide conference on "alternative systems and smart growth".

DEC is the department within the Agency of Natural Resources responsible for administering most of the Agency's regulatory programs. DEC responsibilities include regulating direct and indirect discharges of treated sewage and the planning and funding of proposed municipal wastewater treatment facilities. Given our expertise with the technical and financial aspects of wastewater treatment facilities as well as the respect that we have from the municipalities on these issues, we believe that we can be valuable partners in making this a successful project.

The Agency of Natural Resources is committed to maintaining healthy communities in Vermont and this partnership with Housing and Community Affairs can be integral in helping us to meet that goal.

Sincerely,

Jeffrey Wennberg
Commissioner

Cc: Christine Thompson, WWMD Director
Larry Fitch, FED Director

CENTER FOR RURAL STUDIES
207 Morrill Hall
University of Vermont
Burlington, VT 05405
http://crs.uvm.edu | crs@uvm.edu | 802-656-0892

05.18.06

TO:
Peg Elmer
Director, Planning Division
VT Dept. of Housing and Community Affairs
National Life Building, 6th Floor, Drawer 20
Montpelier, VT 05620

I am writing to express the eagerness of the University of Vermont Center for Rural Studies to participate in the *Improving Wastewater Treatment Options for Vermont's Un-Sewered Villages* project that is being proposed to the Healthy Communities Grant Program.

The Center for Rural Studies (CRS) is a nonprofit, fee-for-service research organization that addresses social, economic, and resource-based problems of rural people and communities. Based in the College of Agriculture and Life Sciences at the University of Vermont, the Center provides consulting, research, and program evaluation services in Vermont, the United States, and abroad.

This project will fit nicely into CRS' slate of activities. CRS has been active in outreach and technical assistance for local land use planning and regulation activities in Vermont for many years now. Our staff provides leadership on the Steering Committee of the Vermont Land Use Education and Training Collaborative, the mission of which is to develop and coordinate educational resources and training for Vermont's local land use officials. On a yearly basis CRS makes contact with 100-150 local land use officials in trainings and workshops that focus on community data, public involvement, and other topics. CRS also houses and maintains various online data and information resources targeted at local land use officials, including:

The Vermont Planning Information Center – www.vpic.info
Vermont Indicators Online – http://crs.uvm.edu/indicators
The Vermont Town Plan Guide – http://crs.uvm.edu/cpdp/planner

CRS is devoted to putting in the time and effort necessary to be a partner in this proposed project. We are committed to helping to shape the project, which would include attending meetings, reviewing materials and providing evaluative feedback to help steer it. We understand that this will entail at least 48 hours of meetings and material review, adding up to an in-kind match of at least $3,120. CRS will also be happy to leverage any of our current activities, resources, and expertise – especially in the realm of community planning surveys – where they may be helpful to this proposed project, as it develops.

Sincerely,

Will Sawyer
Outreach Coordinator
UVM Center for Rural Studies

VERMONT PLANNERS ASSOCIATION

c/o VLCT
89 Main Street, Suite 4
Montpelier, VT 05602
802.229.9111
www.vermontplanners.org

May 19, 2006

To Whom It May Concern:

I am writing in reference to the Healthy Communities Grant Program Application from the Vermont Department of Housing & Community Affairs (DHCA). The project that DHCA is proposing is so much needed. The Vermont Planners Association (VPA), through a recent Growth Centers study (see below), found that the number one obstacle to growth centers is the lack of water and sewer infrastructure. There needs to be a greater understanding about alternative sewage systems for small villages so that we can afford to bring the infrastructure and the growth into these areas.

As an organizational partner to this project, VPA is prepared to provide $500 cash match in support of the project, as well as in-kind participation (equivalent to approximately $4,000) in detailed development of the project and evaluative feedback during the course of it. In addition, we would co-sponsor the described statewide conference and assist in distribution of the training materials through our membership.

Founded in 1987, VPA is an organization of roughly 170 planners around the state. Its purpose is to provide a forum for professional and citizen planners and others interested in planning to share experiences and knowledge about planning issues facing Vermont. The organization provides professional development and educational opportunities for members and planning coordination for the community at large. VPA also represents the profession when local, state and federal governments and agencies are addressing planning issues.

Our participation in this EPA grant project is appropriate, as it is germane to our mission. VPA has long believed that the stated land use goal of compact village and urban centers separated by rural countryside is important to preserving the quality of life we enjoy in Vermont. In 1999, VPA published a report "Growth Centers in Vermont: A Vermont Solution to Sprawl", which promoted growth centers as an important tool for achieving that goal. And just this year we sponsored another study, "Implementing Growth Centers in Vermont, A View from the Towns," to inform the legislature as it considered a new Growth Centers bill. In addition, as stated above, much of what we do centers around educational opportunities. We sponsor at least two workshops a year.

DHCA has a great track record for leading the charge on issues similar to the proposed project. VPA looks forward to partnering with them on this one.

Sincerely,

Polly McMurtry
President

The Vermont Planners Association (VPA) is an organization representing citizen and professional planners, landscape architects, housing and economic development specialists, developers, and engineering consultants from throughout the state. VPA is committed to advancing the art and science of planning.

Attachment E:
Environmental Results, Past Performance and Programmatic Capability Information

1. Sustainable Development Challenge Grant (2001-2004) SD-98125801
Facing Sprawl: Proactive Planning and Engagement along Vermont's Interstate Corridors.
This grant included $239,000 to address the important challenge of development patterns at interstate interchanges. Concerned about the potential for sprawl at certain interchanges this grant initiated a proactive and collaborative planning effort at four targeted interstate interchanges. A complex and controversial subject, the state agencies of Commerce and Transportation worked in partnership with local communities, regional planning entities, and landowners to undertake intensive interchange planning. Broad public input was solicited through a variety of techniques. The goal was to help local decision-makers in interested communities guide development in a manner that is carefully planned and designed to protect and enhance important natural, cultural and scenic values.

The Interstate Interchanges Policy and Planning Initiative was the recipient of the Best Program award in the National Smart Growth Competition of 2004 from the Association of State Highway and Transportation Officials (AASHTO) Center for Environmental Excellence. One of the products of this grant, *Planning and Development Guidelines for Vermont's Interstate Interchanges,* has been the subject of numerous conference presentations from San Francisco to Italy.

All financial obligations and reporting requirements were met to successfully complete this grant.

2. Brownfields Redevelopment Grant (2006)
Brownfields Revolving Loan Fund
From an award letter received two weeks ago, "ACCD has been selected as one of the entities with which EPA will pursue negotiations to award a cooperative agreement for a revolving loan fund grant." EPA has not yet started the administrative process – there is no grant number yet.

This is a $ 1 million grant from the USEPA to support the state's Revolving Loan Fund for brownfields remediation and assessments. The grant will be used to capitalize the state's fund to make no-interest and low-interest loads to eligible applicants to clean up contaminated brownfields sites.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.

10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).

14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE Commissioner 5/25/06
APPLICANT ORGANIZATION VT Department of Housing & Community Affairs	DATE SUBMITTED

OMB Approval No. 0348-0040

ASSURANCES - NON-CONSTRUCTION PROGRAMS

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.