

MEMORANDUM

TO: VSC Finance & Facilities Committee

M. Jerome Diamond

J. Churchill Hindes, Chair

Tim Jerman

Bill Lippert

Christopher Macfarlane, Vice Chair

Linda Milne

Martha O'Connor

Heidi Pelletier

FROM: Tom Robbins, Vice President of Finance & Administration
Chief Financial Officer



DATE: October 23, 2015

SUBJ: October 29, 2015 Finance & Facilities Committee Meeting

The Finance & Facilities Committee of the VSC Board of Trustees will meet beginning at 1 p.m. in Room 101 at the Chancellor's Office in Montpelier. The agenda and back up material for the meeting are enclosed.

If you have any questions, I can be reached at (802) 224-3022.

Thank you.

cc: VSC Board of Trustees
Council of Presidents
Business Affairs Council
Sam Winship, Dept. of Finance & Management
Douglas Hoffer, State Auditor

**Vermont State Colleges Board of Trustees
Finance and Facilities Committee Meeting
October 29, 2015**

AGENDA

A. ITEMS FOR DISCUSSION AND ACTION

1. Review and Approval of FY2017 VSC Capital Projects

B. ITEMS FOR INFORMATION AND DISCUSSION

1. VSC Physical Plant Review
2. VSC Debt Review
3. Update on VSC Consultant Engagement

A. ITEMS FOR DISCUSSION AND ACTION

1. Review and Approval of FY2017 VSC Capital Projects

Annually every college evaluates its various capital needs, develops or updates estimated costs to address each identified project, and submits to the Chancellor's Office their Capital Projects List. The lists are prioritized in order of life/safety, ADA, and deferred maintenance. The FY2017 lists were submitted to the Chancellor's Office during September.

Subsequent to that Dick Ethier and Tom Robbins discussed these projects with the college administrators. As in the past the capital funds will be distributed equally amongst the four campus-based institutions, with \$75,000 going to CCV (assuming a \$1,400,000 funding scenario).

Immediately following the resolution is the VSC's summary of FY2017 capital proposals. Also provided are brief descriptions of each project. Prioritized by college is the \$4 million state capital appropriation request and the \$1 million VSC-generated funding request.

The FY2017 Project Funding Matrix is attached that shows how the capital appropriation will be distributed to the colleges based on funding scenarios of \$1,400,000; \$2,000,000; \$3,000,000; or \$4,000,000.

As in the past we will submit the \$4,000,000 list to the State of Vermont. The VSC will continue to present the case to the state that more funding is needed to help maintain our buildings and infrastructure.

VERMONT STATE COLLEGES

BOARD OF TRUSTEES

RESOLUTION

FY2017 VSC Capital Budget Proposal and State Appropriation Request

WHEREAS, The Vermont State Colleges possesses institutional facilities which require major maintenance and improvements, and funding these needs necessitates both State capital appropriation and other VSC funds; and

WHEREAS, The Board is committed to seeing the System catch up on the backlog of deferred maintenance projects; therefore, be it

RESOLVED, That the Vermont State Colleges Board of Trustees hereby approves the proposed plan of facilities maintenance and improvements with an emphasis upon deferred maintenance projects, including specifically:

- 1) The attached "VSC FY2017 State Capital Appropriation Request" totaling \$4,000,000; and
- 2) The attached "VSC FY2017 Self-Funded Capital Projects" totaling \$1,000,000.

December 3, 2015

**VERMONT STATE COLLEGES
FY 2017 CAPITAL APPROPRIATION REQUEST
SUMMARY OF ALL PROJECTS**

10/14/15

<u>Projects Proposed</u>		VSC Request
VSC	Emergency Maintenance (Recurrent Need)	\$ 200,000
VSC	Roof Repair and Replacement (Recurrent Need)	\$ 300,000
CCV	Academic Facility Improvements	\$ 250,000
CU	Leavenworth Elevator Upgrades	\$ 175,000
CU	Coolidge Library Window Replacement	\$ 92,000
CU	SHAPE Boiler Replacement A&E	\$ 45,000
CU	Campus Flooring Replacement	\$ 150,000
CU	Roadway / Sidewalk Replacements	\$ 350,500
JSC	Campus Walkway A&E Project	\$ 35,000
JSC	Dibden Chiller Replacement	\$ 100,000
JSC	Tennis Court Repair and Resurfacing	\$ 65,000
JSC	Dewey Window Replacement A&E project	\$ 30,000
JSC	Limited Sidewalk Repairs	\$ 50,000
JSC	Campus Electrical Upgrades	\$ 25,000
JSC	Campus Walkway Reconstruction Phase I	\$ 210,000
JSC	Dewey Window Replacement Project	\$ 297,500
LSC	Shape Pool Dehumidification Equipment	\$ 125,000
LSC	Campus Pond and Fountain Repair	\$ 50,000
LSC	Vail Stairwell Upgrades	\$ 30,000
LSC	Activities Window Replacement	\$ 322,000
LSC	Wheelock Parking Lot Reconstruction	\$ 202,000
LSC	Campus Stormwater Improvements	\$ 83,500
VTC	Site Light Upgrade Phase III	\$ 80,000
VTC	Green Hall Elevator Replacement Phase II	\$ 62,000
VTC	Shape Pool Tile Flooring Replacement	\$ 85,000
VTC	Well Pump Generator	\$ 50,000
VTC	Williston Building 200 Roof Replacement	\$ 130,000
VTC	Site Light Upgrade Phase IV	\$ 116,000
VTC	Campus Window Replacement Project	\$ 178,000
VTC	Hartness Roof Replacement	\$ 111,500
Total Projects		\$ 4,000,000

**VERMONT STATE COLLEGES
FY 2017 SELF FUNDED CAPITAL PROJECTS**

10/14/15

REVENUE SOURCES

Dorm/Dining Capital Fees	\$ 500,000.00
General Purpose Capital Fees	\$ 500,000.00
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TOTAL SOURCES	\$ 1,000,000.00

PROJECTS PROPOSED

CU	Adams / Haskell Sprinkler Project	\$ 250,000.00
JSC	Governors Electrical Upgrade Project	\$ 225,000.00
JSC	Dorm Safety Project	\$ 25,000.00
LSC	Wheelock Restroom Renovations	\$ 140,000.00
LSC	Stevens Dining Hall Roof Replacement	\$ 110,000.00
VTC	Nutting Student Room and Lounge Window Replacement	\$ 160,000.00
VTC	Morey Domestic Hot Water Upgrade Project	\$ 90,000.00
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TOTAL PROJECTS		\$ 1,000,000.00

**VERMONT STATE COLLEGES
FY 2017 CAPITAL APPROPRIATION REQUEST
- STATE FUNDED PROJECTS -**

CCV

Academic Facility Site Improvements: \$250,000

CCV owns or leases twelve academic facilities. Therefore the burden for interior maintenance and improvement falls within CCV's responsibilities, either through lease agreements or ownership. Significant increases for contract work necessitate an increase in requested funds. Examples of candidate projects for FY17 site improvement funds are:

- Adaptation of facilities for new and revised programmatic offerings.
- Adaptation and expansion of facilities and equipment for changes in enrollment.
- Addressing workplace safety and accessibility issues.
- Continued fit-out of site-based science and art rooms, computer labs, libraries, and other non-standard classroom facilities.
- Replacement/upgrade of building support systems (HVAC, EMS, etc.)

Castleton University

Leavenworth Elevator Upgrades Project: \$175,000

As part of the FY16 capital request, we requested elevator upgrade funding for the Campus Center and Leavenworth. The Campus Center elevator was completed but there was not sufficient funding to upgrade the unit in Leavenworth. As noted last year, this is a 1970 vintage elevator and does not comply with current Life Safety and ADA codes. Bay State Elevator Company is recommending we upgrade this elevator to reduce liability exposure and to increase dependability. It is not uncommon for this elevator to be "out of service," which creates issues for students and staff in this heavily used building.

Coolidge Library Window Replacement Project: \$92,000

The Coolidge Library was constructed in 1965 and still has the original windows. These window units are single pane glass with aluminum frames and are not thermally broken. These single pane non-thermally broken units allow the cold and heat to infiltrate the building during the winter and summer months. New energy efficient replacement windows would reduce heating and cooling costs by eliminating air infiltration.

SHAPE Boiler Replacement Engineering Design Project: \$45,000

The York Shipley Boiler was installed in 1955 and refurbished in 1989. This boiler is one of two that supply steam to the Spartan Athletic Complex and Castleton Hall. This boiler is in relatively good condition, but is showing signs of aging and is once again in need of repairs. Significant refractory work was performed recently. There is evidence of rusting around the hand holds and the front of the boiler is in need of repairs. It has been estimated that replacing this unit with a newer, energy efficient boiler would reduce our oil consumption in this boiler plant by 30%.

Campus Flooring Replacement Project: \$150,000

There are numerous areas on campus where the carpet or tile needs to be replaced due to wear and tear. Funding of this project would allow Castleton to replace the carpet in the Stafford Academic Center hallways and offices, Herrick Auditorium, Fine Arts Center and Woodruff Hall.

Sidewalk / Roadway Replacement Project: \$350,500

Replacement of failing sidewalks and roadways around campus has been an ongoing project. The main loop through campus has substantial potholes and cracking which allow moisture to penetrate the base material, causing frost heaving. Repairs have been made; however there needs to be a more long-term solution. There are also several sidewalks on campus that need to be replaced and brought up to current standards. Funding of this project would allow Castleton to continue with replacing failing sidewalks, resurfacing parking lots and roadways around campus.

Johnson State College

Campus Walkway Replacement A&E Project: \$35,000

The campus walkways throughout the campus are in a deteriorated condition and are in need of replacement. The design of the walkway system also needs to be evaluated and updated. This project would provide the funds to redesign the walkway system, provide a construction estimate for phased construction and create the construction documents ready to be released for bidding.

Dibden Chiller Replacement Project: \$100,000

The air conditioning chiller unit is original equipment and currently is undependable. The Dibden Theater is used throughout the summer months hosting events and camps, so air conditioning is essential. It is proposed that a new unit be installed to increase the dependability of the building cooling system, and to reduce operating and maintenance costs.

Tennis Court Repair and Resurfacing Project: \$65,000

The asphalt base beneath these courts has failed in some locations and the existing playing surface is reflecting these asphalt base failures thus creating a poor playing surface. The scope of

this project would be to repair the asphalt base and recoat the playing surface to prolong the life of the courts.

Dewey Window Replacement A&E Project: \$25,000

Dewey Hall was constructed in 1964 and still has the original windows. These window units are single pane glass with aluminum frames and are not thermally broken. This project would provide the funding to select and design a new energy efficient window system, estimate the cost of installation, and create the construction documents so that the project can be released for bidding once the funding has been established.

Limited Sidewalk Repair Project: \$50,000

This project would temporarily repair deteriorated sections of walkways thus reducing the potential for slips and falls until the reconstruction project can be funded.

Campus Electrical Energy Upgrades Project: \$25,000

Many of the building systems are original and this project would enable us to provide more economical and dependable services to the campus. Equipment such as pumps would be replaced and variable frequency drives would be installed. Street lighting would be upgraded to LED fixtures. All these upgrades would yield energy savings and reductions in operational costs.

Campus Sidewalk Reconstruction Replacement Project Phase I: \$210,000

Funding of this project will allow us to start the reconstruction of the campus walkway system. We will start the reconstruction by releasing the construction documents created as part of the A&E project. The reconstruction will involve the complete removal of the existing walkway and the complete reconstruction of the walkway base and walking surface. This approach will remove all conditions that could lead to premature failure of the walkways and ensure a long useful life.

Dewey Window Replacement Project: \$297,500

Dewey Hall was constructed in 1964 and still has the original windows. These window units are single pane glass with aluminum frames that are not thermally broken, thus allowing the cold and heat to infiltrate the building during the winter and summer months. Funding of this project would allow us to release the construction documents create in the A&E project to install energy efficient windows units that would eliminate air infiltration thus reduce draft and conserve energy and reduce heating and cooling costs.

Lyndon State College

LSC SHAPE Pool Heating and Dehumidification Equipment Project: \$125,000

The SHAPE pool dehumidification and water heating systems are original equipment installed in 1990. These units have reached the end of their useful lives and now require substantial maintenance and repair. This project will replace these units with energy efficient equipment, reducing operating and maintenance costs.

Campus Pond and Fountain Repair Project: \$50,000

The pond which contains the fountain located in the center of campus has developed a leak and requires periodic addition of water to maintain its water level. This is a manmade pond that has been part of the campus culture for decades. This project would provide the funding to dredge the existing pond, install a new liner, update the plumbing associated with the fountain, and to also replace the auto fill and overflow systems.

Vail Stairwell Upgrades Project: \$30,000

The stairwells in Vail Hall are in dire need of an upgrade in finishes. This project would allow us to completely repaint the walls, ceilings and handrails as well as replace all stair treads and landing floor tile.

Activities Window Replacement Project: \$322,000

The windows located in the Activities Building are the original wood framed thermopane units. Over the years the seals in these thermopane units have failed, thus causing them to collect moisture and become unsightly. This project would replace these units with energy efficient units, improving the appearance and conserving energy.

Wheelock Parking Lot Reconstruction Project: \$202,000

This parking lot has deteriorated to the point where cracks, pot holes, and heaved portions can no longer be effectively “spot” repaired. We are proposing to reclaim the existing asphalt and reconstruct the base with 3” of additional gravel, and repave with 3 ½ inches of asphalt. All storm drains will be repaired and manhole covers will be adjusted accordingly. Parking spaces, crosswalks, and HC markings will be repainted.

Campus Stormwater Improvements Project: \$83,500

Recently LSC contracted with Krebs and Lansing Consulting Engineers to create a Campus Stormwater Management Plan. This plan identified a number of areas on campus that would benefit from improvements in stormwater management. This project would fund improvements in the following areas:

- Add retention pond to lower discharge area below Skateboard Park.
- Tie stormwater drains from Harvey and Wheelock into the storm system emptying into the Rita Bole retention pond.
- Upgrade rain gardens at Stonehenge by increasing holding capacity in all areas.
- Address all swales and upper rain garden and swales along Lower Campus Drive to retention area.

Vermont Technical College

Site Lighting Improvements, Phase III: \$80,000

The site lighting system on the Randolph Center campus is approximately 20 years old. There are 182 pole lights on the campus, 60 of which are currently LED fixtures. The remaining poles consist of metal halide or high pressure sodium fixtures. Because these poles and fixtures are showing their age and are in need of replacement, we would like install new LED fixtures and replace the poles on a phased project schedule over 3-4 years. Funding for the new LED fixtures and poles and underground electrical repairs were done in 2009/2012/2015 and have proved to be not only energy saving, but offer a truer color rendition for the public safety.

Green Hall Elevator Replacement Project Phase II: \$62,000

This project was partially funded by the FY16 capital appropriation. As part of the FY17 request we are requesting the balance of the funds required to complete this project. It is proposed to fully modernize the existing 40-year-old elevator in Green Hall. This two-stop unit will be updated to comply with current Life Safety and ADA code. Upgrades will include items such as:

- New ADA compliant surface mount hall stations, one at each floor, elevator opening.
- New complete submersible power unit with state of the art valve, pump, motor, and oil reservoir.
- New fully ADA compliant car operating panel complete with ADA push to talk hands free phone, LED Digital Position indicator, and Emergency Light and alarm unit.

SHAPE Pool Tile Flooring Repair and Replacement Project: \$85,000

The SHAPE pool has been in operation for 25 years. Pool environments are harsh on surrounding surfaces and mechanical systems. As a result of these harsh conditions a number of small projects are need to be funded to maintain the overall appearance of the pool and its functionality. The deck ceramic tile flooring is showing signs of wear and needs to be repaired or

replaced. The stainless steel pool deck perimeter drain is deteriorating in a few locations; sections will be removed and replaced as required. Also the HVAC air supply ducts located under the concrete pool deck slab are in need of repair, as sand is infiltrating into the supply ducts and being deposited on the pool deck. These ducts would be repaired and sealed to prevent this condition.

Campus Well Pump Emergency Generator Project: \$50,000

As part of the VTC utility plan, the addition of a generator for the water supply well pump would serve to provide uninterrupted electrical power supply for the campus and community water system. Currently a portable PTO driven unit is used to provide such power. However, the addition of a permanent standby generator would create a seamless operation of providing constant water supply for drinking and for fire suppression. The project consists of purchasing a small generator (on a concrete pad), switchgear, and associated electrical supplies to connect with the existing electrical supply and to the well pump to allow for uninterrupted power supply to operate the well pump.

Williston Building 200 Roof Replacement Project: \$130,000

This project is to replace the current EDPM membrane roof on this building, which is over 26 years old. It was not replaced when the building underwent an interior renovation approximately 6 years ago, and has reached the end of its useful life. Leaks have become more commonplace and, as this building houses a newly renovated interior, it is recommended that the roof be replaced within the next 1-2 years with a .060 EDPM membrane system.

Site Lighting Improvements, Phase IV Project: \$116,000

The site lighting system on the Randolph Center campus is approximately 20 years old. There are 182 pole lights on the campus. Previous projects have allowed us to replace existing high pressure sodium and metal halide fixtures with LED fixtures. With the funding of this final phase we will have replaced all the old fixtures with energy efficient LED lighting.

Window Replacement Project: \$178,000

Administration Building: We would like to replace the two storefront windows located on the north and south entries of this building. These windows were installed as part of the general building renovation in 1986. However, the metal support frame is deteriorating because of the use of salt, which in turn is then oxidizing (deteriorating) the aluminum window frames.

Conant: We would like to replace the existing original (1964) single pane hopper windows in this building. The storefront windows and entry doors have been replaced, are in good shape, hence they are not included in this project. There are 36 total windows in this building, and we would like to replace these windows with a more energy efficient Dual Pane/Low E model. We would also like to include new window treatment as well.

Morrill/Morrill Annex: We would like to replace the existing original (1964) single pane hopper windows in these buildings, as well as several original wood doors. There are 26 windows in Morrill, 18 doors in Morrill Annex, as well as two storefront and 6 exterior doors that we would like to replace. All windows will be replaced with a double pane Low E model. Doors will be replaced with energy efficient models as well.

Hartness Roof Replacement Project: \$111,500

The current EDPM membrane roof on this building is 20+ years old and is reaching the end of its expected life. This roof has been repaired numerous times. The lack of funding prevented us from replacing this roof when the building underwent a complete interior renovation in 2012. It is proposed that the roof be replaced with a new .060 EDPM fully adhered roofing system.

VSC

Emergency Maintenance: \$200,000

As in previous years, this is annual funding to provide the college system with a contingency that will be used to fund unplanned needs that inevitably arise across VSC's more than 100 buildings (approximately 1,700,000 sq ft) and over 1,400 acres of property, which combined have a replacement value approaching \$250,000,000.

Roof Repair and Replacement: \$300,000

To address the most serious roofing concerns as assessed from annual review of all structures throughout the college system.

**VERMONT STATE COLLEGES
FY 2017 CAPITAL APPROPRIATION REQUESTS
- DORM / DINING PROJECTS -**

Castleton University

Adams and Haskell Sprinkler Project: \$250,000

There has been increased pressure from the State Fire Marshal to install automatic sprinkler systems in these two older residence halls. All residence halls constructed within the past 10 years have been sprinkled. Castleton would like to continue installing sprinkler systems in each of its residence halls because student safety is paramount and this is another way to ensure student safety within the residence halls.

Johnson State College

Governors Electrical Upgrade Project: \$225,000

The existing transformers and main distribution panels are original building equipment and approximately 45 years old. The main distribution panels were manufactured by Federal Pacific, which is no longer in business, making replacement parts very difficult to obtain. Funding of this project would allow JSC to implement the final phase of what has been a multi-phased project to replace this equipment.

Dorm Safety Projects: \$25,000

This project will fund the final design of the Governors – Senators sprinkler systems and creation of specifications and construction documents in preparation for bidding. Also funded will be the continuation of the dorm security system, another group of student room electronic locksets will be replaced with the latest model which has the ability to be networked and will allow for system modifications to be done remotely.

Lyndon State College

Stevens Dining Hall Roof Replacement Project: \$110,000

This asphalt shingle roof is approaching 25 years old and is in very poor condition and is at the end of its expected life. We have areas where the shingles have curled and broken, and where the plywood substrate is delaminating. This project would fund the replacement of the roof, repair the substrate as required, and replace siding and flashing as needed.

Wheelock Restroom Renovation project: \$140,000

The restrooms in the Wheelock Residence Hall are 50 years old. These restrooms are aesthetically unpleasing and the plumbing and ventilation systems have become maintenance problems. This project would allow for the demolition and reconstruction of the restrooms. Each will receive new fixtures, counters, lighting, wall and floor finishes.

Vermont Technical College

Nutting Lobby and Lounge Window Replacement Project: \$160,000

When Nutting was constructed in 1970, the windows installed in the student lounges and activities rooms were state of the art PVC framed thermopane units. Presently these units have deteriorated frames and glass panes that are no longer thermally insulated. We also have 85 student rooms that have single pane sliding windows. These windows are very inefficient and are in dire need of replacement. This project would fund the installation of energy efficient units, provide functional windows, and improved aesthetics.

Morey Hall Domestic Hot Water Upgrade Project: \$90,000

There are two 1,000-gallon water storage tanks that provide the domestic hot water needs for the dining hall kitchen and the 140 residence hall occupants. The existing system and water tanks are 47 years old, and are in need of an upgrade to more effective and efficient system thus reducing maintenance and energy costs.

10/14/15

FY 17 Project Funding Matrix

Scenario	1,400,000	2,000,000	3,000,000	4,000,000
CU				
Leavenworth Elevator Upgrade	175,000	175,000	175,000	175,000
Coolidge Library Windows	106,250	92,000	92,000	92,000
		45,000	45,000	45,000
		81,750	150,000	150,000
			163,000	350,500
JSC				
Campus Walkway Reconstruction A&E	35,000	35,000	35,000	35,000
Dibden Chiller Replacement	100,000	100,000	100,000	100,000
Tennis Court Repair and Resurfacing	65,000	65,000	65,000	65,000
Dewey Window Replacement A&E	30,000	30,000	30,000	30,000
Limited Sidewalk Repairs	51,250	50,000	50,000	50,000
		25,000	25,000	25,000
		88,750	210,000	210,000
			110,000	297,500
LSC				
Shape Pool Dehumidification Equipment	125,000	125,000	125,000	125,000
Campus Pond and Fountain Repair	50,000	50,000	50,000	50,000
Vail Stairwell Upgrades	30,000	30,000	30,000	30,000
Activities Window Replacement Phase I	76,250	188,750	332,000	332,000
			88,000	202,000
				73,500
VTC				
Site Light Upgrade Phase III	80,000	80,000	80,000	80,000
Green Hall Elevator Replacement Phase II	62,000	62,000	62,000	62,000
Shape Pool Tile Flooring Replacement	85,000	85,000	85,000	85,000
Well Pump Generator	54,250	50,000	50,000	50,000
		116,750	130,000	130,000
			116,000	116,000
			102,000	178,000
				111,500
CCV				
Academic Facility Improvements	75,000	150,000	200,000	250,000
Emergency Maintenance	100,000	125,000	150,000	
Roof Repair /Replacement	100,000	150,000	150,000	200,000
Scenario Total	<u>1,400,000</u>	<u>2,000,000</u>	<u>3,000,000</u>	<u>4,000,000</u>
Note: Campus based split =	281,250	393,750	625,000	812,500

B. ITEMS FOR INFORMATION AND DISCUSSION

1. VSC Physical Plant Review

a. College Review by Physical Plant Directors

The physical plant directors from each college have been invited to each give a brief overview of their campuses.

b. Building Spreadsheet Review

The following building inventory spreadsheet represents all the buildings owned and leased by the VSC. Buildings are listed by college and in descending order by age. The spreadsheet also includes building square footage and the insured replacement cost.

VSC Building Inventory

10/20/15						
LOCATION DESCRIPTION	Occup/Desc	Year Built	Building Age	CONST	AREA SQ. FT.	BUILDING
Community College of VT / 41 Harmony Place, Brattleboro, VT 05301	Classroom (Leased Space)	1860 / 2014	155	Brick / Wood Frame	8,435	\$816,000
Community College of VT, 1997 Main St, St. Johnsbury VT	Classroom	1869	146	Brick	6,032	\$0
Community College of VT, 10 Merchants Row, Middlebury, VT	Classroom	1900	115	Brick	2,950	\$0
Community College of VT, 324 Main St, Bennington VT	Classroom	1920	95	Brick	9,800	\$0
Community College of VT, 197 Harrel St, Morrisville, VT	Classroom	1984	31	Wood Frame	6,818	\$0
Community College of VT, 660 Elm Street , Montpelier, VT	Classroom Building	1987/ 2000/ 2012	28	Wood / Steel framed	34,000	\$7,900,500
Community College of VT, 142 So. Main St, St. Albans VT	Classroom	1992	23	Wood Frame	9,900	\$1,328,700
Community College of VT, 100 Main St, Newport VT 05855	Classroom	1998	17	Brick	8,600	\$0
Community College of VT, Billings Farm Industrial Park, Wilder VT	Classroom	2004	11	Brick/Steel	15,000	\$2,480,579
Community College of VT, 1 Abenaki Way, Winooski, VT	Classroom/Admin	2009	6	Masonry/NC	65,000	\$14,500,000
Community College of VT, 60 West Street, Rutland, VT 05701	Classroom	2011	4	Masonry/NC	32,241	\$0
					198,776	\$27,025,779
Castleton State, Rutland, VT 05701 (leased Space)	Offices			Brick/Wood	2,000	\$0
Castleton State, Castleton, VT (30 Seminary Lane)	Offices	Pre 1900	115+	Wood Frame	3,316	\$235,000
Castleton State, Castleton, VT (36 Seminary Lane)	residence	Early 1900's	100+	Wood Frame	1,468	\$150,000
Castleton State, Castleton, VT (Old Chapel)	Seminar	1821/1987	194	Wood Frame	3,180	\$1,303,609
Castleton State, Castleton, VT (HopeHouse/Wellness Center)	Wellness Center	1850	165	Wood Frame	2,168	\$446,608
Castleton State, Castleton, VT (Wooldridge House)	Art Studio	1890	125	Wood Frame	2,500	\$515,000
Castleton State, Castleton, VT (Moriarty House)	Classroom/Office	1900	115	Wood Frame	2,850	\$463,809
Castleton State, Castleton, VT (Chris White House)	House	1900's	115	Wood Framed	1,200	\$300,000
Castleton State, Castleton, VT (Wright House)	Offices	1900	115	Wood Frame	4,200	\$865,200
Castleton State, Castleton, VT (Observatory)	Observatory	1919	96	Brick/Metal	160	\$70,198
Castleton State, Castleton, VT (Woodruff Hall)	Classroom/Administration	1927	88	Brick/Wood	26,916	\$6,376,400
Castleton State, Castleton, VT (Ellis Hall)	Dormitory	1950	65	Brick/Block	26,384	\$4,538,312
Castleton State, Castleton, VT (Glenbrook Gym)	Gymnasium	1959/2009	56	Brick/Block	42,702	\$12,518,265
Castleton State, Castleton, VT (Huden Hall)	Dining Hall	1965/1997	50	Brick/Wood	14,321	\$4,702,723
Castleton State, Castleton, VT (Adams Hall)	Dormitory	1965	50	Brick/Steel	31,224	\$5,370,841
Castleton State, Castleton, VT (Haskell Hall)	Dormitory	1965	50	Brick/Block	31,224	\$5,370,840
Castleton State, Castleton, VT (Morrill Hall)	Dormitory	1968	47	Brick/Block	25,416	\$4,371,806
Castleton State, Castleton, VT (Wheeler Hall)	Dormitory	1968	47	Brick/Block	25,416	\$4,371,806
Castleton State, Castleton, VT (Fine Arts Center)	Auditorium	1969	46	Brick/Steel	46,467	\$9,045,731
Castleton State, Castleton, VT (Superior Boiler Room)	Boiler Plant	1969	46	Brick/Block	2,222	\$645,402
Castleton State, Castleton, VT (Jeffords Science Center)	Classroom	1969/1993/2007	46	Brick/Block	34,100	\$11,280,000
Castleton State, Castleton, VT (President's House)	Residence	1972	43	Wood Frame	3,822	\$787,332
Castleton State, Castleton, VT (Leavenworth Hall)	Classroom	1974/2009	41	Brick/Block	33,628	\$6,775,520
Castleton State, Castleton, VT (Campus Center)	Student Union	1975/2009	40	Block/Steel	35,068	\$7,859,651
Castleton State, Castleton, VT (Babcock Hall)	Dormitory	1989	26	Brick/Steel	28,392	\$4,883,708
Castleton State, Castleton, VT (SHAPE (gym) Addition)	Gymnasium	1990	25	Brick/Block	25,048	\$5,933,871
Castleton State, Castleton, VT (Stafford Academic Ctr)	Classroom/Office	1999	16	Brick/Steel	26,409	\$9,082,241
Castleton State, Castleton, VT (Calvin Coolidge Library)	Library	1999	16	Brick/Steel	33,158	\$6,651,598
Castleton State, Rutland, Vt (Spartan Arena)	Ice Arena	2004	11	Preengineered Metal	42,256	\$4,000,000
Castleton State, Castleton, VT (Residence Hall and Fitness Center)	Residence/Fitness	2004	11	Brick/Steel	53,750	\$9,245,538
Castleton State, Castleton, VT (North, Center & South Halls) 3 buildings	Dormitory	2006	9	Wood Frame	35,295	\$5,380,370
Castleton State, castleton, Vt. (Green House)	Green House	2008	7	Steel / Glass	600	\$360,000
Castleton State, Behind 360 Street (Stadium/Bleachers)	Athletic Facility	2009	6	Steel / Wood	6,700	\$3,602,417
Castleton State, Castleton, VT (Maintenance Building)	Maintenance Building	2011	4	Wood/Preengineered Metal	15,500	\$2,400,000
Castleton State College (Residence Hall)	Dormitory	2012	3	Brick / Steel	43,800	\$7,800,000
Castleton State, Castleton, VT (Pavilion Building)	Pavilion	2012	3	Wood Frame	8,300	\$1,500,000
					721,160	\$149,203,796

VSC Building Inventory

10/20/15						
LOCATION DESCRIPTION	Occup/Desc	Year Built	Building Age	CONST	AREA SQ. FT.	BUILDING
Johnson State College, Johnson, VT (Farm House Duranleau)	Farm House	1919	96	Wood Frame	2,000	\$257,500
Johnson State College, Johnson, VT (McClelland Hall)	Classrooms/Offices	1941	74	Brick/Steel	17,888	\$3,242,737
Johnson State College, Johnson, VT (Martinetti Hall)	Dormitory/Offices	1958	57	Brick/Block	39,812	\$5,535,859
Johnson State College, Johnson, VT (Arthur Hall)	Dormitory	1964/2012	51	Brick/Conc	31,224	\$4,881,697
Johnson State College, Johnson, VT (Dewey Campus Ctr)	Classrooms/Offices	1964	51	Brick/Steel	19,020	\$3,095,315
Johnson State College, Johnson, VT (Carter Gymnasium)	Gymnasium	1965/2009	50	Brick/Block	16,300	\$5,287,369
Johnson State College, Johnson, VT (President's House)	Residence	1967	48	Wood Frame	2,000	\$257,500
Johnson State College, Johnson, VT (Governors Hall)	Dormitory	1968	47	Brick/Block	41,952	\$5,833,426
Johnson State College, Johnson, VT (Stearns Dining Hall)	Dining Hall	1968/ 2008	47	Brick/Block	42,276	\$15,000,000
Johnson State College, Johnson, VT (Bentley Hall)	Classroom/Labs	1970/2010/2011	45	Brick/Block	26,064	\$7,216,495
Johnson State College, Johnson, VT (Dibden Auditorium)	Auditorium	1970	45	Brick/Block	30,160	\$4,877,174
Johnson State College, Johnson, VT (Duranleau Barn)	Barn	1970	45	Wood Frame	2,000	\$175,100
Johnson State College, Johnson, VT (Senators Hall)	Dormitory	1970	45	Brick/Block	57,600	\$8,009,280
Johnson State College, Johnson, VT (Water Tower)	Water Tower	1970	45	Steel	1,440	\$566,500
Johnson State College, Johnson, VT (Campus Apartments)	Apartments	1973	42	Wood Frame	43,276	\$8,290,816
Johnson State College, Johnson, VT (Visual Arts Ctr)	Classrooms	1976/2012	39	Brick/Block	14,030	\$3,000,000
Johnson State College, Johnson, VT (Maintenance Bldg)	Maintenance Shop	1978	37	Block/Wood	7,200	\$696,014
Johnson State College, Johnson, VT (House 1096 College Hill)	House	1980	35	Wood Framed	2,589	\$225,000
Johnson State College, Johnson, VT (Shop Storage)	Storage Building	1982	33	Wood Frame	1,200	\$105,060
Johnson State College, Johnson, VT (Garage)	Bus Shed	1983	32	Wood Frame	2,880	\$222,480
Johnson State College, Johnson, VT (Hazardous Material Storage Shed)	Haz Storage at Maint	1993	22	Wood Frame	168	\$21,630
Johnson State College, Johnson, VT (Library Learning Ctr)	Library	1995	20	Brick/Steel	39,000	\$6,065,670
					440,079	\$82,862,622
Lyndon State College, Lyndonville, VT (McGoff Hill House (325k) & Barn (100k))	Residence	1860	155	Wood	2,464	\$325,000
Lyndon State College, Lyndonville, VT (Alumni House)	Offices	1910	105	Wood Frame	3,628	\$513,816
Lyndon State College, 173 York Street, Lyndon, VT 05849	Grange Building (Vacant)	1915	100	Masonry	3,600	\$300,000
Lyndon State College, Lyndonville, VT (Day Care Ctr)	Day Care Facility	1960	55	Wood Frame	2,016	\$342,619
Lyndon State College, Lyndonville, VT (Gray House)	Residence	1963	52	Wood Frame	2,859	\$404,905
Lyndon State College, Lyndonville, VT (Ball Field Service Bldg)	Residence	1963	52	Wood Frame	688	\$77,044
Lyndon State College, Lyndonville, VT (President's House)	Residence	1964	51	Wood Frame	4,158	\$588,877
Lyndon State College, Lyndonville, VT (Stevens Dining Hall)	Dining Hall	1965	50	Brick/Wood	13,438	\$3,121,177
Lyndon State College, Lyndonville, VT (Harvey Academic Ctr)	Classrooms/Offices	1965/2010	50	Brick/Steel	19,495	\$6,489,878
Lyndon State College, Lyndonville, VT (Wheellock Dormitory)	Dormitory	1965	50	Brick/Concrete	31,224	\$4,775,867
Lyndon State College, Lyndonville, VT (Arnold/Bayley Dorm Complex)	Dormitory	1967	48	Brick/Concrete	35,709	\$5,461,870
Lyndon State College, Lyndonville, VT (Rogers/Poland Dorm Complex)	Dormitory	1967	48	Brick/Concrete	30,862	\$4,720,497
Lyndon State College, Lyndonville, VT (Activities Building)	Thearter/Gym/Labs	1969/2011	46	Brick/Steel	80,865	\$17,697,157
Lyndon State College, Lyndonville, VT (Maintenance Shop)	Maintenance Shop	1970	45	Steel	8,700	\$1,330,709
Lyndon State College, Lyndonville, VT (Crevecoeur/Whitelaw Dorm Complex)	Dormitory	1970	45	Brick/Concrete	36,036	\$5,511,886
Lyndon State College, Lyndonville, VT (Samuel Reed Hall Library)	Library	1971	44	Block/Concrete	50,000	\$8,554,150
Lyndon State College, Lyndonville, VT (Theodore Vail Ctr)	Classrooms/Offices	1976	39	Brick/Concrete	56,610	\$12,314,713
Lyndon State College, Lyndonville, VT (Brown house)	Health Services	1978	37	Wood Frame	3,844	\$653,288
Lyndon State College, Lyndonville, VT (Bus Garage)	Storage Building	1983	32	Wood Frame	1,224	\$94,127
Lyndon State College, Lyndonville, VT (Storage Bldg)	Storage Building	1983	32	Wood Frame	5,000	\$475,860
Lyndon State College, Lyndonville, VT (Transmitter House)	Radio Equipment	1986	29	Block	169	\$16,995
Lyndon State College, Lyndonville, VT (Rita Bole Ctr Shape)	Gym/Pool	1990	25	Brick/Steel	21,500	\$5,382,420
Lyndon State College, Lyndonville, VT (New Student Housing Complex)	Dormitory	2005	10	Brick/Steel	48,068	\$7,375,830
Lyndon State College, Lyndonville, VT (Academic and Student Center)	Offices	2009	6	Brick / steel	33,853	\$8,200,000
					496,010	\$94,728,685

VSC Building Inventory

10/20/15						
LOCATION DESCRIPTION	Occup/Desc	Year Built	Building Age	CONST	AREA SQ. FT.	BUILDING
Vermont Technical College, Randolph Center, VT (Hay Barn)	Barn	1994	21	Wood Frame	3,305	\$289,353
VTC, 72 Helena Drive, Williston, VT	Classroom/ Dorm	1997/2009/2011	18	Steel/Brick	18,000	\$3,525,000
Vermont Technical College, Norwich Farm, Norwich, Vt. (Colonial House)	Residence	1998	17	Wood Framed	2,820	\$340,000
VTC Nusing School at VTC Campus Randolph Center VT	Classrooms	1999	16	Brick	5,485	\$0
Vermont Technical College, Randolph Center, VT (Morrill Addition)	Classrooms	2000	15	Brick/Steel	22,000	\$3,296,000
Vermont Technical College, Randolph Center, VT (Solar Barn)	Barn	2000	15	Metal/Plastic	1,000	\$87,550
Vermont Technical College, Norwich Farm, Norwich, Vt. (Old Barn)	Barn	2000	15	Wood Framed	2,040	\$120,000
Vermont Technical College, Norwich Farm, Norwich, Vt. (Heifer Barn)	Barn	2000	15	Wood Framed	4,142	\$175,000
Vermont Technical College, Norwich Farm, Norwich, Vt. (Sand Shed)	Shed	2000	15	Wood Framed	192	\$20,000
Vermont Technical College, Norwich Farm, Norwich, Vt. (Dry Cow Barn)	Barn	2000	15	Wood Framed	2,592	\$110,000
Vermont Technical College, Norwich Farm, Norwich, Vt. (Dairy Barn)	Barn	2000	15	Wood Framed	13,500	\$825,000
Vermont Technical College, Norwich Farm, Norwich, Vt. (Shop)	Shop	2000	15	Wood Framed	2,424	\$62,000
Vermont Technical College, Randolph Center, VT (Windmill)	Wind Mill	2003	12	Metal	1,000	\$46,350
Vermont Technical College, Randolph Center, Vt (Burn Simulator Building)	Training Facility	2009	6	Prengineered Metal	2,750	\$1,100,000
VTECH Building - 1540 Route 66, Randolph, VT	Office Space	2010	5	Wood Frame	8,689	\$1,553,125
Vermont Technical College, Randolph Center, Vt (Digester Building)	Digester Building	2014	1	Wood Frame	4,000	\$350,000
Vermont Technical College, Randolph Center, Vt (Digester Tank)	Digester Tank	2014	1	Steel	1,654	\$1,300,000
Vermont Technical College, Randolph Center, Vt (Hydrolyzer Tank)	Hydrolyzer Tank	2014	1	Steel	472	\$600,000
Vermont Technical College, Randolph Center, Vt (Effluent Tank)	Effluent Tank	2014	1	Steel	472	\$400,000
					624,224	\$106,526,572
VSC Chancellors Office, 575 Stonecutters Way, Montpelier, Vt	Offices (Leased Space)	2012	3	Wood Framed	13,638	\$1,500,000
VSC Baker Road 1502-1735-1750 Eden, VT	Cabin	?	25+	Wood Framed	324	\$15,000
VSC Baker Road 1502-1735-1750 Eden, VT	Cabin	?	25+	Wood Framed	654	\$15,000
					14,616	\$1,530,000
				TOTALS	2,494,865	\$461,877,454

c. Energy Efficiency Initiatives

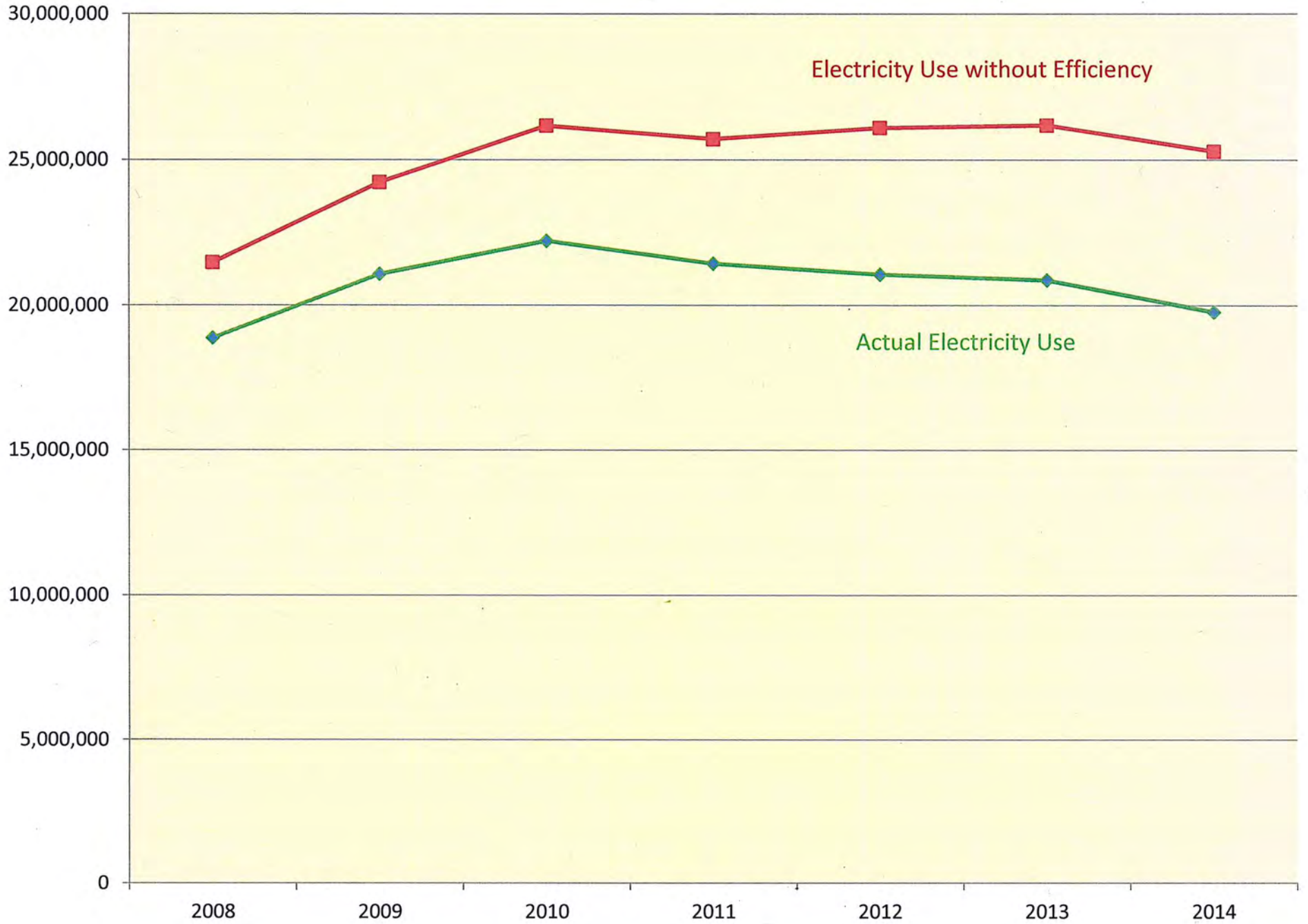
This past summer the VSC and Efficiency Vermont released RFPs for an ASHERA Level I Energy Audit of 13 buildings on four campuses and for a Retro-commissioning Scoping Study of eight buildings on three campuses. Both RFPs were intended to identify low cost energy efficiency projects that would yield a good return on investment (less than seven years). The ASHERA audit focused on building systems such as heating and ventilation, pumps, building controls, and electrical systems. The retro-commissioning study focused on the building control systems of newer buildings and opportunities for operational efficiencies.

We received a good response from the RFPs and two local firms were selected. LN Consulting from Winooski was selected to do the ASHERA Level I Audits and CX Associates from Burlington was selected to complete the Retro-commissioning Scoping Study. We received the draft reports from both firms in early October. Both studies identified a number of low cost projects with acceptable return on investment but they also identified a significant number of projects that would require large investments with low returns. An example of these types of projects would be the complete replacement of building heating, ventilation, and control systems. These results are directly related to the fact that each of the colleges has been working with Efficiency Vermont for many years identifying good projects, implementing them (see attached Efficiency Vermont Impact Investment sheets), and reaping the cost benefits, leaving a disproportionate number of very large and costly mechanical system replacement projects.

A large number of VSC facilities are in the 35- to 50-years-old range; a majority of those buildings are still operating with original heating and ventilation equipment. In most cases this equipment is getting very tired, costly to maintain, and no longer operating efficiently. Coupled with the fact that HVAC system guidelines have changed since these systems were installed, and cannot be modified to meet current standards, our consultants concluded and recommended we begin investing in new HVAC systems so that these buildings can be of service for many more years to come.

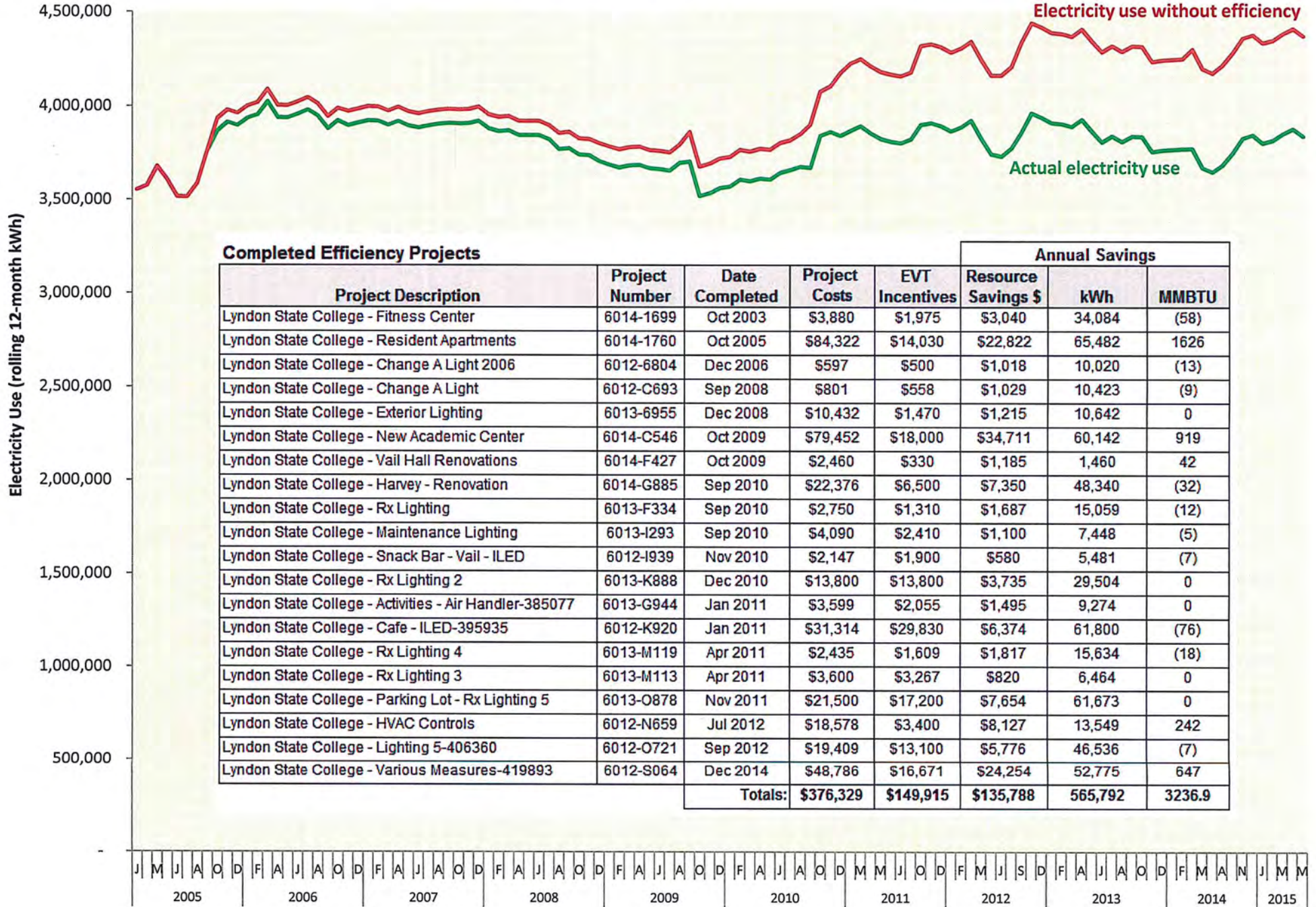
Our next step will be to implement as many of the low cost energy efficiency projects as possible from both studies by using the funding provided by the Green Revolving Fund, and identifying HVAC systems in dire need of replacement while exploring options for funding.

Electricity Consumption - Vermont State Colleges





Lyndon State - Impact of Efficiency Investments (since 2005)



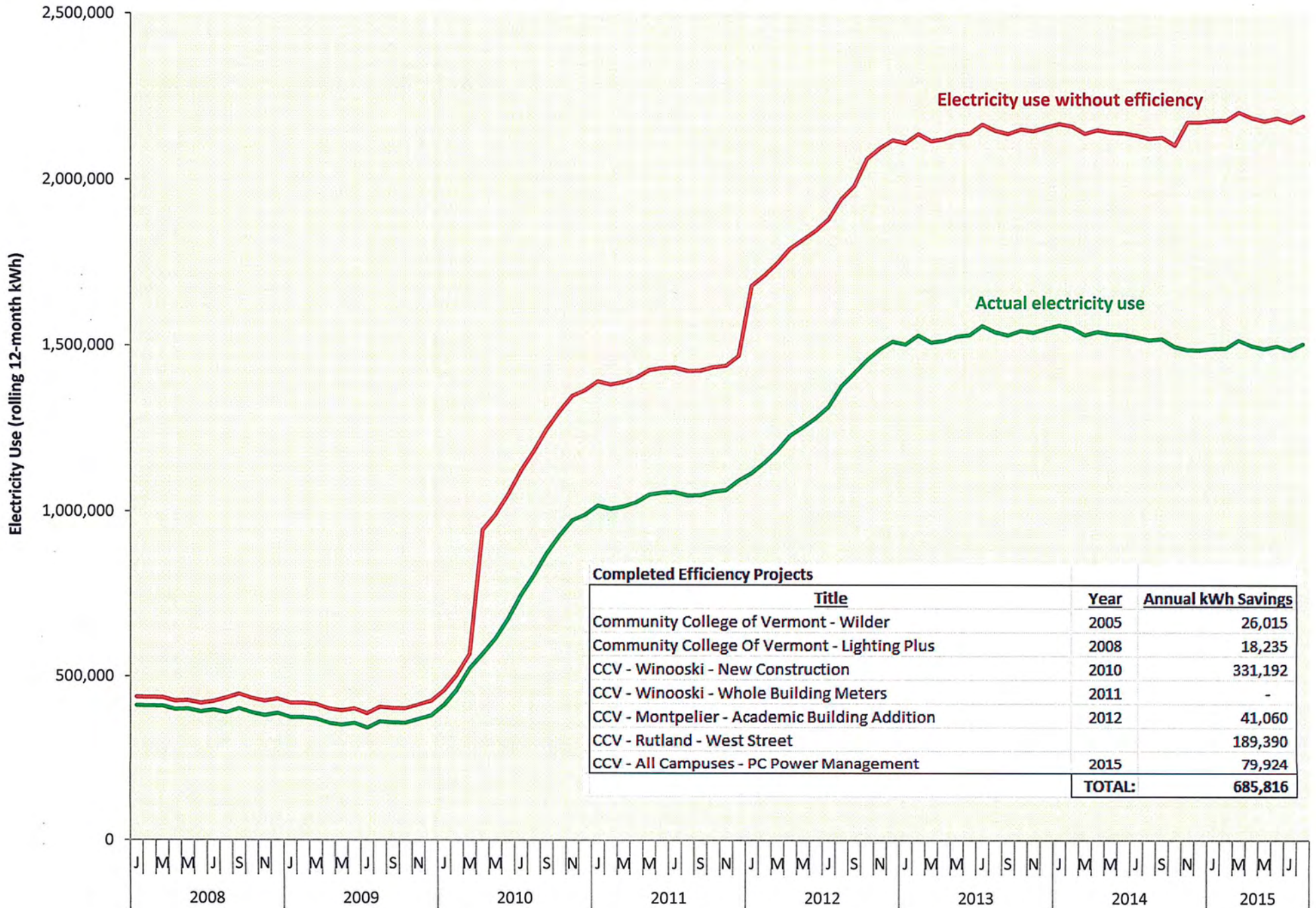
Completed Efficiency Projects

Project Description	Project Number	Date Completed	Project Costs	EVT Incentives	Annual Savings		
					Resource Savings \$	kWh	MMBTU
Lyndon State College - Fitness Center	6014-1699	Oct 2003	\$3,880	\$1,975	\$3,040	34,084	(58)
Lyndon State College - Resident Apartments	6014-1760	Oct 2005	\$84,322	\$14,030	\$22,822	65,482	1626
Lyndon State College - Change A Light 2006	6012-6804	Dec 2006	\$597	\$500	\$1,018	10,020	(13)
Lyndon State College - Change A Light	6012-C693	Sep 2008	\$801	\$558	\$1,029	10,423	(9)
Lyndon State College - Exterior Lighting	6013-6955	Dec 2008	\$10,432	\$1,470	\$1,215	10,642	0
Lyndon State College - New Academic Center	6014-C546	Oct 2009	\$79,452	\$18,000	\$34,711	60,142	919
Lyndon State College - Vail Hall Renovations	6014-F427	Oct 2009	\$2,460	\$330	\$1,185	1,460	42
Lyndon State College - Harvey - Renovation	6014-G885	Sep 2010	\$22,376	\$6,500	\$7,350	48,340	(32)
Lyndon State College - Rx Lighting	6013-F334	Sep 2010	\$2,750	\$1,310	\$1,687	15,059	(12)
Lyndon State College - Maintenance Lighting	6013-I293	Sep 2010	\$4,090	\$2,410	\$1,100	7,448	(5)
Lyndon State College - Snack Bar - Vail - ILED	6012-I939	Nov 2010	\$2,147	\$1,900	\$580	5,481	(7)
Lyndon State College - Rx Lighting 2	6013-K888	Dec 2010	\$13,800	\$13,800	\$3,735	29,504	0
Lyndon State College - Activities - Air Handler-385077	6013-G944	Jan 2011	\$3,599	\$2,055	\$1,495	9,274	0
Lyndon State College - Cafe - ILED-395935	6012-K920	Jan 2011	\$31,314	\$29,830	\$6,374	61,800	(76)
Lyndon State College - Rx Lighting 4	6013-M119	Apr 2011	\$2,435	\$1,609	\$1,817	15,634	(18)
Lyndon State College - Rx Lighting 3	6013-M113	Apr 2011	\$3,600	\$3,267	\$820	6,464	0
Lyndon State College - Parking Lot - Rx Lighting 5	6013-O878	Nov 2011	\$21,500	\$17,200	\$7,654	61,673	0
Lyndon State College - HVAC Controls	6012-N659	Jul 2012	\$18,578	\$3,400	\$8,127	13,549	242
Lyndon State College - Lighting 5-406360	6012-O721	Sep 2012	\$19,409	\$13,100	\$5,776	46,536	(7)
Lyndon State College - Various Measures-419893	6012-S064	Dec 2014	\$48,786	\$16,671	\$24,254	52,775	647
Totals:			\$376,329	\$149,915	\$135,788	565,792	3236.9

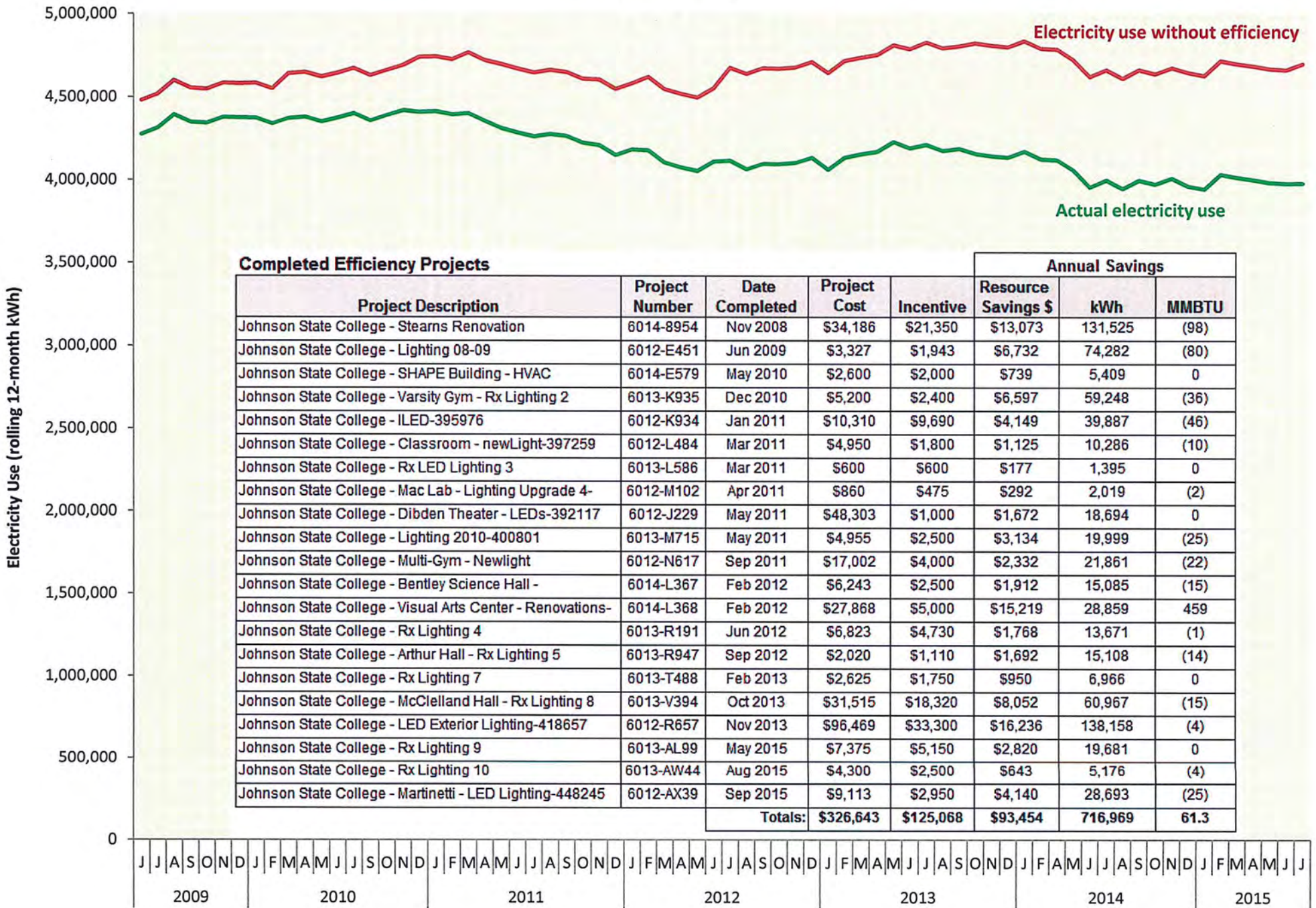


Community College of Vermont - Impact of Efficiency Investments

(since 2008, sites where CCV pays electric bill directly)



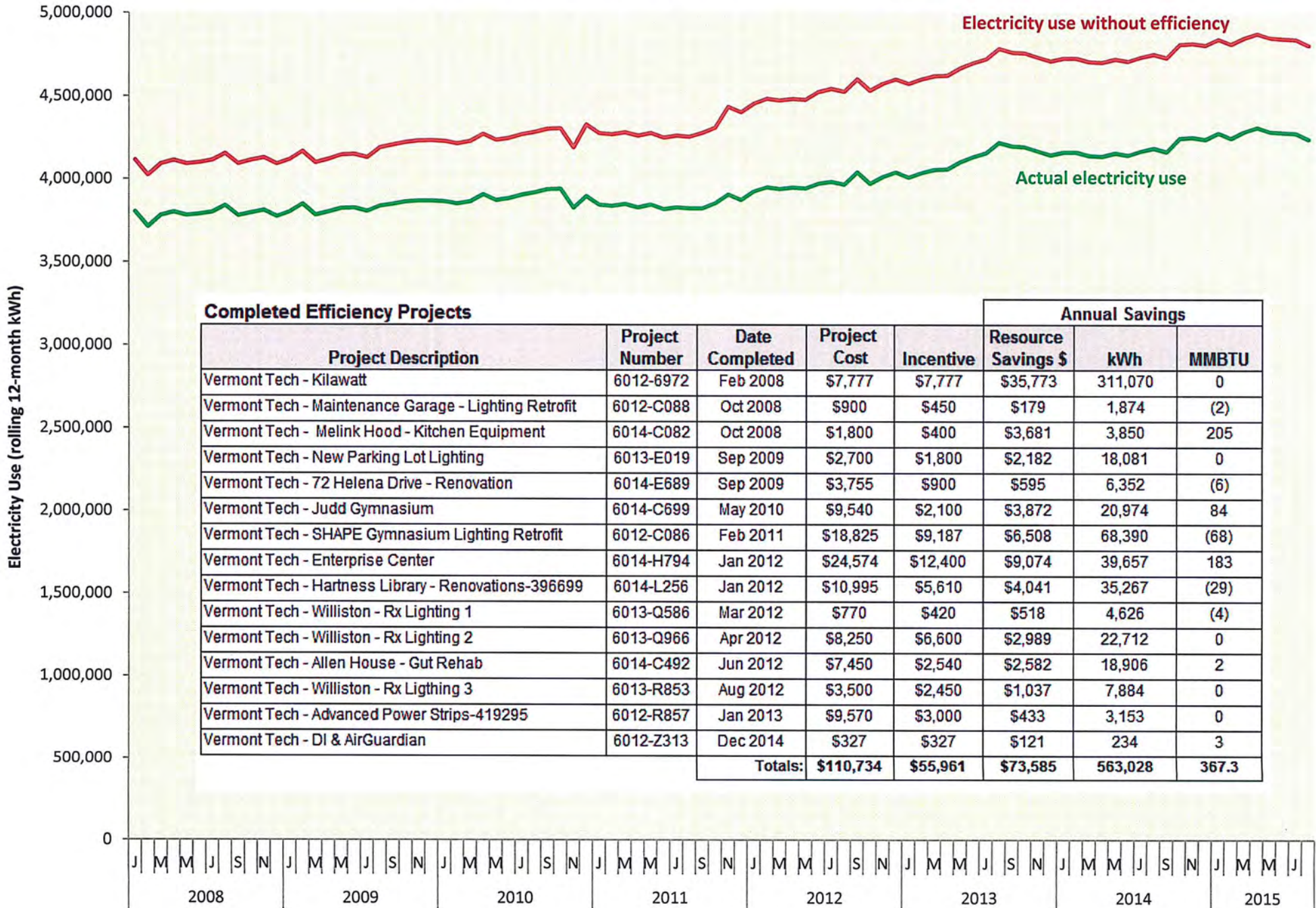
Johnson State - Impact of Efficiency Investments (since 2008)



Completed Efficiency Projects						Annual Savings		
Project Description	Project Number	Date Completed	Project Cost	Incentive	Resource Savings \$	kWh	MMBTU	
Johnson State College - Stearns Renovation	6014-8954	Nov 2008	\$34,186	\$21,350	\$13,073	131,525	(98)	
Johnson State College - Lighting 08-09	6012-E451	Jun 2009	\$3,327	\$1,943	\$6,732	74,282	(80)	
Johnson State College - SHAPE Building - HVAC	6014-E579	May 2010	\$2,600	\$2,000	\$739	5,409	0	
Johnson State College - Varsity Gym - Rx Lighting 2	6013-K935	Dec 2010	\$5,200	\$2,400	\$6,597	59,248	(36)	
Johnson State College - ILED-395976	6012-K934	Jan 2011	\$10,310	\$9,690	\$4,149	39,887	(46)	
Johnson State College - Classroom - newLight-397259	6012-L484	Mar 2011	\$4,950	\$1,800	\$1,125	10,286	(10)	
Johnson State College - Rx LED Lighting 3	6013-L586	Mar 2011	\$600	\$600	\$177	1,395	0	
Johnson State College - Mac Lab - Lighting Upgrade 4-	6012-M102	Apr 2011	\$860	\$475	\$292	2,019	(2)	
Johnson State College - Dibden Theater - LEDs-392117	6012-J229	May 2011	\$48,303	\$1,000	\$1,672	18,694	0	
Johnson State College - Lighting 2010-400801	6013-M715	May 2011	\$4,955	\$2,500	\$3,134	19,999	(25)	
Johnson State College - Multi-Gym - Newlight	6012-N617	Sep 2011	\$17,002	\$4,000	\$2,332	21,861	(22)	
Johnson State College - Bentley Science Hall -	6014-L367	Feb 2012	\$6,243	\$2,500	\$1,912	15,085	(15)	
Johnson State College - Visual Arts Center - Renovations-	6014-L368	Feb 2012	\$27,868	\$5,000	\$15,219	28,859	459	
Johnson State College - Rx Lighting 4	6013-R191	Jun 2012	\$6,823	\$4,730	\$1,768	13,671	(1)	
Johnson State College - Arthur Hall - Rx Lighting 5	6013-R947	Sep 2012	\$2,020	\$1,110	\$1,692	15,108	(14)	
Johnson State College - Rx Lighting 7	6013-T488	Feb 2013	\$2,625	\$1,750	\$950	6,966	0	
Johnson State College - McClelland Hall - Rx Lighting 8	6013-V394	Oct 2013	\$31,515	\$18,320	\$8,052	60,967	(15)	
Johnson State College - LED Exterior Lighting-418657	6012-R657	Nov 2013	\$96,469	\$33,300	\$16,236	138,158	(4)	
Johnson State College - Rx Lighting 9	6013-AL99	May 2015	\$7,375	\$5,150	\$2,820	19,681	0	
Johnson State College - Rx Lighting 10	6013-AW44	Aug 2015	\$4,300	\$2,500	\$643	5,176	(4)	
Johnson State College - Martinetti - LED Lighting-448245	6012-AX39	Sep 2015	\$9,113	\$2,950	\$4,140	28,693	(25)	
Totals:			\$326,643	\$125,068	\$93,454	716,969	61.3	

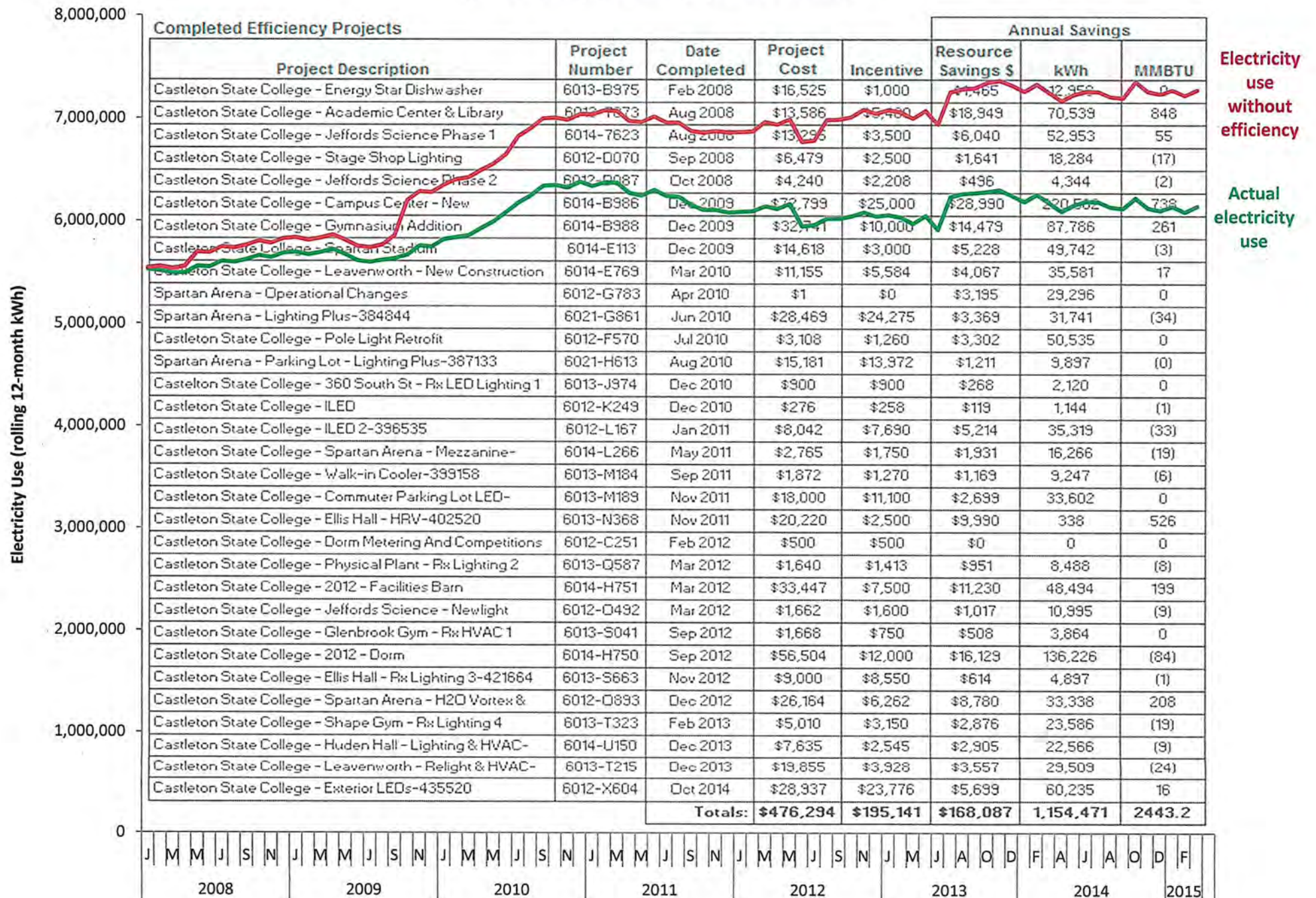


Vermont Technical College - Impact of Efficiency Investments (since 2008, Randolph & Williston campuses)



Completed Efficiency Projects					Annual Savings		
Project Description	Project Number	Date Completed	Project Cost	Incentive	Resource Savings \$	kWh	MMBTU
Vermont Tech - Kilowatt	6012-6972	Feb 2008	\$7,777	\$7,777	\$35,773	311,070	0
Vermont Tech - Maintenance Garage - Lighting Retrofit	6012-C088	Oct 2008	\$900	\$450	\$179	1,874	(2)
Vermont Tech - Melink Hood - Kitchen Equipment	6014-C082	Oct 2008	\$1,800	\$400	\$3,681	3,850	205
Vermont Tech - New Parking Lot Lighting	6013-E019	Sep 2009	\$2,700	\$1,800	\$2,182	18,081	0
Vermont Tech - 72 Helena Drive - Renovation	6014-E689	Sep 2009	\$3,755	\$900	\$595	6,352	(6)
Vermont Tech - Judd Gymnasium	6014-C699	May 2010	\$9,540	\$2,100	\$3,872	20,974	84
Vermont Tech - SHAPE Gymnasium Lighting Retrofit	6012-C086	Feb 2011	\$18,825	\$9,187	\$6,508	68,390	(68)
Vermont Tech - Enterprise Center	6014-H794	Jan 2012	\$24,574	\$12,400	\$9,074	39,657	183
Vermont Tech - Hartness Library - Renovations-396699	6014-L256	Jan 2012	\$10,995	\$5,610	\$4,041	35,267	(29)
Vermont Tech - Williston - Rx Lighting 1	6013-Q586	Mar 2012	\$770	\$420	\$518	4,626	(4)
Vermont Tech - Williston - Rx Lighting 2	6013-Q966	Apr 2012	\$8,250	\$6,600	\$2,989	22,712	0
Vermont Tech - Allen House - Gut Rehab	6014-C492	Jun 2012	\$7,450	\$2,540	\$2,582	18,906	2
Vermont Tech - Williston - Rx Ligthing 3	6013-R853	Aug 2012	\$3,500	\$2,450	\$1,037	7,884	0
Vermont Tech - Advanced Power Strips-419295	6012-R857	Jan 2013	\$9,570	\$3,000	\$433	3,153	0
Vermont Tech - DI & AirGuardian	6012-Z313	Dec 2014	\$327	\$327	\$121	234	3
Totals:			\$110,734	\$55,961	\$73,585	563,028	367.3

Castleton University - Impact of Efficiency Investments (since 2008, including Spartan Arena)



d. Roof Study

The following spreadsheet lists the building roofs within the VSC system in descending order of age. Also illustrated are the square footages of the roofs, type of roofing, and the estimated cost of replacement for asphalt shingle and membrane roofs 20 years and older.

9/17/15

VSC Roof Inventory

Campus	Roof	Install Date	Age	Roofing Type	Approx Area Square Feet	Est. Replacement Cost
Vermont Tech	Farm Machinery Shed	1960	55	Alum. Sheet	4,800	
Vermont Tech	Farm Upper Barn	1960	55	Alum. Sheet	8,500	\$38,250.00
Lyndon State	Maintenance Shop	1/2 in 1972	43	Sheet Metal	6,100	
Lyndon State	Brown House	1976	39	Metal Sheet	2,200	
Castleton State	Wright House	1978	37	Asphalt Shingle	900	\$5,850.00
Johnson State	Arthur's Dorm	1980	35	Membrane	6,100	\$55,100.00
Castleton State	Fine Arts South low roof	1981	34	Membrane	8,600	\$150,000.00
Castleton State	Fine Arts High Roofs	1981	34	Membrane	9,300	\$160,000.00
Johnson State	Dibden Theatre roof	1983	32	Membrane	16,000	\$145,600.00
Vermont Tech	Judd Hall	1983	32	Membrane	16,000	\$145,600.00
Johnson State	College Apts (2 units)	1983	32	Asphalt Shingles	3,600	\$23,400.00
Lyndon State	Green Storage Shed	1983	32	Sheet Metal	6,000	
Lyndon State	Bus Garage	1983	32	Sheet Metal	1,500	
Castleton State	Woodruff Hall	1984	31	Membrane	9,900	\$90,090.00
Castleton State	Wright House	1900	30+	Slate		
Castleton State	Moritary	unavailable	30+	Standing Seam	1,400	
Castleton State	Public Safety	unavailable	30+	Slate	3,000	
Castleton State	Public Safety	unavailable	30+	Asphalt Shingles	1,000	\$6,500.00
Johnson State	Duranleau House	unavailable	30+	Sheet Metal	2,500	
Johnson State	Duranleau Barn	unavailable	30+	Sheet Metal	2,000	
Lyndon State	Gray House	Unknown	30+	Asphalt Shingles	1,500	\$9,750.00
Castleton State	Old Chapel	1987	28	Sheet Metal	2,800	
Castleton State	Old Chapel Addition	1987	28	Sheet Metal	600	
Vermont Tech	Building 200	1988	27	Membrane	16,500	\$150,150.00
Vermont Tech	Old Dorm Porch roof	1989	26	Membrane	300	\$2,730.00
Johnson State	Shape High roof	1989	26	Membrane	33,500	\$304,850.00
Vermont Tech	Auto Tech Main Building	1989	26	Sheet Metal		
Vermont Tech	Auto Tech Porch Entry	1989	26	Membrane	300	\$2,730.00
Vermont Tech	Norwich 2nd House / Garage	unavailable	25+	Shingles	2,500	\$16,250.00
Vermont Tech	VTEC Lower Building	1990	25	Asphalt Shingles	7,000	\$45,500.00
Vermont Tech	VTEC Storage Building	1990	25	Metal	1,500	
Lyndon State	Wheelock	1991	24	Membrane	6,800	\$61,880.00
Castleton State	Presidents House	1991	24	Asphalt Shingles	3,000	\$19,500.00
Vermont Tech	Maintnenace	1991	24	Standing Seam	2,600	
Vermont Tech	Morrill Hall	1991	24	Membrane	33,500	\$304,850.00
Vermont Tech	Hartness Library	1992	23	Membrane	15,000	\$136,500.00
Vermont Tech	Green Lab Low roof	1992	23	Membrane	2,000	\$18,200.00
Lyndon State	Maintenance Shop	1/4 in 1992	23	Sheet Metal	3,050	
Vermont Tech	President's House	1992	23	Cedar Shingles	3,500	
Vermont Tech	Auto Tech 1st Addition	1992	23	Sheet Metal		
Vermont Tech	Old Dorm East Wing roof	1993	22	Membrane	2,500	\$22,750.00
Vermont Tech	Conant	1993	22	Membrane	9,000	\$81,900.00
Vermont Tech	Hay Barn	1994	21	Standing Seam	3,500	
Vermont Tech	Langevin Conf. Ctr.	1994	21	Standing Seam	2,800	
Vermont Tech	Morrill Annex	1994	21	Membrane	7,500	\$68,250.00
Vermont Tech	Building 5667	unavailable	20+	Asphalt Shingles	1,500	\$9,750.00
Vermont Tech	Building 5689	unavailable	20+	Asphalt Shingles	1,500	\$9,750.00
Vermont Tech	VTEC Storage Shed #1	unavailable	20+	Metal	250	
Vermont Tech	VTEC Storage Shed #2	unavailable	20+	Metal	500	
Johnson State	Brown Storage Barn	unavailable	20+	Sheet Metal	1,500	
Johnson State	Vehicle Storage Barn	unavailable	20+	Sheet Metal	3,500	
Estimated Total						\$2,085,680.00
Lyndon State	Maintenance Shop	1/4 in 1995	20	Sheet Metal	3,050	
Lyndon State	Library Acad Ctr.	1995	20	Membrane	17,500	
Johnson State	Governors South	1995	20	Membrane		
Johnson State	LLC	1996	19	Membrane	18,000	
Johnson State	LLC	1996	19	Standing Seam		
Vermont Tech	Nutting House	1996	19	Asphalt Shingles	2,600	
Vermont Tech	Shape Gym roof	1996	19	Asphalt Shingles	12,500	
Vermont Tech	Main Barn	1996	19	Standing Seam	14,000	
Lyndon State	Day Care	1997	18	Asphalt Shingles	2,200	
Lyndon State	Alumni House	1997	18	Asphalt Shingles	3,000	
Vermont Tech	Langevin House	1997	18	Standing Seam	3,000	

Lyndon State	President's House	1997	18	Asphalt Shingles	2,800
Lyndon State	President's	1997	18	Asphalt Shingles	500
Vermont Tech	Green Lab High roof	1998	17	Membrane	
Lyndon State	Stevens Dining	1998	17	Asphalt Shingles	14,000
Vermont Tech	Norwich Farm House / Garage	1998	17	Standing Seam	2,800
Johnson State	Governors North	1999	16	Membrane	
Johnson State	Governors Link Connector	1999	16	Membrane	
Johnson State	Bentley Hall	1999	16	Membrane	11,800
Castleton State	Huden Hall	1999	16	Membrane	1,700
Lyndon State	Activities High roof	1999	16	Membrane	50,000
Castleton State	Stafford Building	1999	16	Membrane	
Castleton State	Calvin Coolidge Lib.	1999	16	Membrane	27,800
Vermont Tech	Norwich Mobile Home	unavailable	15+	Metal	1,050
Johnson State	Senators North	2000	15	Membrane	11,800
Johnson State	Senators South	2000	15	Membrane	
Johnson State	Senators Link Connector	2000	15	Membrane	
Lyndon State	Activities Low roof	2000	15	Membrane	25,500
Vermont Tech	Green Office Area roof	2000	15	Membrane	
Vermont Tech	Morrill Addition	2000	15	Rubber Shingles	
Vermont Tech	Morrill Terrace roof	2000	15	Membrane	
Lyndon State	Whitelaw	2000	15	Membrane	4,700
Lyndon State	Crevecoeur	2000	15	Membrane	4,700
Castleton State	Woodruff Hall	2000	15	Membrane	9,900
Vermont Tech	Norwich Dairy Barn	2000	15	Standing Seam	16,200
Vermont Tech	Norwich Repair Shop	2000	15	Standing Seam	1,450
Vermont Tech	Norwich Dry Cow Barn	2000	15	Standing Seam	3,420
Vermont Tech	Norwich Heifer Barn	2000	15	Standing Seam	3,240
Vermont Tech	Norwich Sand Shed	2000	15	Standing Seam	225
Vermont Tech	Norwich Calf Barn	2000	15	Standing Seam	2,600
Lyndon State	Vail	2001	14	Membrane	18,000
Lyndon State	Arnold	2001	14	Membrane	4,700
Lyndon State	Bayley	2001	14	Membrane	4,700
Lyndon State	Rogers	2001	14	Membrane	4,700
Lyndon State	Poland	2001	14	Membrane	4,700
Castleton State	Glenbrook Gym.	2001	14	Membrane	21,900
Castleton State	Superior Boiler	1991	14	Membrane	2,300
Johnson State	McClelland High Roof	2001	14	Membrane	
Johnson State	McClelland Low Roof	2001	14	Membrane	
Johnson State	Martinetti High roof	2002	13	Membrane	
Johnson State	Martinetti Low roof	2002	13	Membrane	
Vermont Tech	Red School Flat roof	2002	13	Membrane	1,600
Castleton State	Science North Wing	2002	13	Membrane	6,600
Vermont Tech	Livestock Barn	2003	12	Standing Seam	3,800
Castleton State	Leavenworth	2003	12	Membrane	9,800
Johnson State	College Apts (1 unit)	2003	12	Asphalt Shingles	1,800
Vermont Tech	Green Classroom	2003	12	Membrane	
Vermont Tech	Generator Bld.	2003	12	Standing Seam	1,200
Vermont Tech	Auto Tech Trades Addition	2003	12	Standing Seam	
Castleton State	Wheeler Res. Hall	2003	12	Membrane	6,600
Castleton State	Morrill Res. Hall	2003	12	Membrane	6,600
Johnson State	College Apts (2 units)	2004	11	Asphalt Shingles	3,600
Castleton State	Ellis Hall	2004	11	Membrane	9,300
CCV	Upper Valley	2004	11	Asphalt Shingles	9,400
Lyndon State	Rita Bole - A Building	2004	11	Membrane	3,900
Lyndon State	Rita Bole - B Building	2004	11	Membrane	5,500
Lyndon State	Rita Bole - C Building	2004	11	Membrane	5,500
Johnson State	Stearns Hall	2004	11	Standing Seam	8,500
Castleton State	Castleton Hall	2005	10	Membrane	45,000
Johnson State	Dewey Hall	2005	10	Membrane	15,000
Vermont Tech	Shape Pool roof	2005	10	Asphalt Shingles	12,500
Vermont Tech	Building 100	2006	9	Membrane	8,600
Johnson State	College Apts (2 units)	2006	9	Asphalt Shingles	3,600
Castleton State	Babcock Res. Hall	2006	9	Membrane	8,000
Castleton State	Res House #1	2006	9	Asphalt shingles	5,000
Castleton State	Res House #2	2006	9	Asphalt shingles	5,000
Castleton State	Res House #3	2006	9	Asphalt shingles	5,000
Castleton State	Huden Hall	2007	8	Asphalt shingles	12,700
Johnson State	Presidents House	2007	8	Standing Seam	2,000
Vermont Tech	Keenan A - Wing	2007	8	Asphalt Shingles	
Vermont Tech	Keenan B - Wing	2007	8	Asphalt Shingles	
Vermont Tech	Keenan C - Wing	2007	8	Asphalt Shingles	
Vermont Tech	Campus Ctr.	2007	8	Membrane	13,000

Castleton State	Science North Wing	2007	8	Membrane	11,000
Castleton State	Science Lecture Hall	2007	8	Standing Seam	3,700
Castleton State	Science Connector	2008	7	Membrane	600
Castleton State	Stadium	2009	6	Asphalt shingles	4,500
Lyndon State	ASAC Building	2009	6	Membrane	7,348
Lyndon State	ASAC Building	2009	6	Standing Seam	7,628
Vermont Tech	Red School Side roofs	2009	6	Asphalt Shingles	1,400
Castleton State	SHAPE	2009	6	Membrane	23,600
Castleton State	Athletic Facility	2009	6	Membrane	15,000
Castleton State	Campus Center	2009	6	Membrane	12,600
Castleton State	Campus Center	2009	6	Standing Seam	1,740
Johnson State	College Apts (8 units)	2010	5	Asphalt Shingles	14,400
Lyndon State	Harvey Acad. Ctr.	2010	5	Membrane	17,000
Vermont Tech	Administrative Ctr.	2010	5	Asphalt Shingles	11,000
Vermont Tech	Old Dorm Main Bldg.	2010	5	Standing Seam	10,700
Johnson State	Maintenance Shop	2010	5	Standing Seam	7,200
CCV	Winooski	2010	5	Membrane	13,100
Castleton State	Physical Plant Office	2011	4	Asphalt shingles	5,200
Castleton State	Physical Plant Shop Area	2011	4	Sheet Metal	13,000
Castleton State	Physical Plant Storage Barn	2011	4	Sheet Metal	1,800
Lyndon State	Activities Elevator Addition	2011	4	Membrane	300
Vermont Tech	Building 700	2011	4	Membrane	6,400
Vermont Tech	Building 400	2011	4	Membrane	14,500
Johnson State	VAC Inner Core	2011	4	Membrane	
Johnson State	VAC Core	2011	4	Standing Seam	3,200
Johnson State	VAC North Addition	2011	4	Standing Seam	3,200
Johnson State	VAC West Addition	2011	4	Standing Seam	3,200
Vermont Tech	VTEC Upper Building	2011	4	Standing Seam	
CCV	Montpelier Building A	2011	4	Asphalt Shingles	3,600
CCV	Montpelier Building B	2012	3	Asphalt Shingles	7,500
CCV	Montpelier Building C	2012	3	Asphalt Shingles	7,500
Castleton State	Pavilion	2012	3	Asphalt shingles	8,300
Vermont Tech	Allen House	2012	3	Standing Seam	3,000
Castleton State	Adams Res. Hall	2012	3	Membrane	
Castleton State	Hoff Hall	2012	3	Membrane	43,800
Castleton State	Haskell Res. Hall	2013	2	Membrane	6,500
Vermont Tech	Keenan Core	2013	2	Membrane	
Vermont Tech	Morey Dorm	2013	2	Membrane	
Vermont Tech	Morey Dining roof	2013	2	Membrane	
Vermont Tech	Morey Kitchen roof	2013	2	Membrane	
Vermont Tech	Building 300	2013	2	Membrane	8,600
Vermont Tech	Nutting Core	2015	0	Membrane	
Vermont Tech	Nutting A - wing	2015	0	Membrane	
Vermont Tech	Nutting B - Wing	2015	0	Membrane	
CCV	St Albans	2015	0	Asphalt Shingles	14,500
Johnson State	Dibden High roof	2015	0	Membrane	4,200
Vermont Tech	Maintenance Bld.	2015	0	Membrane	4,600
Vermont Tech	Central Heating Pit.	2015	0	Membrane	4,500
Johnson State	Shape Low roof	2015	0	Membrane	6,500
Johnson State	Stearns Dining Hall Roof	2015	0	Membrane	
Castleton State	Fine Arts North low roof	2015	0	Membrane	8,600
Lyndon State	Shape Gym	2015	0	Membrane	7,000
Lyndon State	Shape Pool	2015	0	Membrane	11,500
Lyndon State	Shape Rotunda	2015	0	Membrane	2,500

e. VSC Deferred Maintenance List

The following spreadsheet lists future potential deferred maintenance projects with estimated costs by campus. These projects are the compilation of project lists gathered from each campus physical plant director and include deferred maintenance and campus improvement projects.

Vermont State Colleges Capital Projects

Revised 10/20/15

Community College of Vermont

St Albans HVAC Equipment Replacement	\$	150,000
Leasehold Improvements	\$	450,000
Subtotal	\$	600,000

Castleton University

Adams Haskell Elevator power head replacement	\$	30,000
Admission Painting	\$	20,000
Automatic door openers/ADA projects	\$	33,000
Babcock Epoxy all Bathroom floors	\$	85,000
Babcock Eyebrow Replacement	\$	28,000
Babcock Renovations	\$	400,000
Babcock Window Replacement	\$	45,000
Bioler Retube #2 Ellis (Leaking)	\$	9,400
Boiler Retube #3 Adams (Leaking)	\$	15,500
Campus Carpet Replacement	\$	100,000
Campus Rooftop unit service	\$	20,000
Campus Steam Trap Mapping and Repairs	\$	35,000
Campus Transformer fuses replaced	\$	20,000
Castleton Hall 3rd flr door replacement	\$	1,000
Chapel Painting	\$	40,000
Chapel Replace Ramp	\$	25,000
Coolidge Roof Replacement	\$	300,000
Coolidge Sprinkler System	\$	80,000
Ellis Epoxy all Bathroom floors	\$	50,000
Ellis Renovations	\$	500,000
Ellis Supply / Waste lines Replacement	\$	150,000
Emergency generator - west campus	\$	500,000
Energy management upgrades	\$	100,000
Exterior lighting	\$	135,000
Fertilier and weed control for Athletic Fields	\$	10,000
Fine Arts - install elevators for access	\$	202,500
Fine Arts - South Elevator Repairs	\$	100,000
Fine Arts Replace membrane roof	\$	300,000
General landscaping improvements	\$	75,000
Herrick Doors Replacement	\$	3,000
Hoff Hall Epoxy all bathroom floors	\$	74,000
Huden Fire Alarm Upgrade	\$	25,000
Huden HVAC Repairs	\$	71,000
Leavenworth Air Conditioning	\$	345,000
Leavenworth Elevator upgrade	\$	175,000
Leavenworth Paint & Carpeting	\$	50,000
Leavenworth Replace Room Divider	\$	10,000
Library Sprinkler System	\$	80,000
Library Window Replacement	\$	50,000
Morrill Epoxy all Bathroom floors	\$	102,000
Overseed and Topdress Athletic Fields	\$	6,000
Paving/Sidewalk projects	\$	1,000,000
Public Safety Porch Roof Repairs	\$	10,000
Shape Gym Doors Replacement	\$	3,000
Stafford Air conditioning	\$	375,000
Stafford Hallway Doors Replacement	\$	3,000
Superior - Adams Steamline connection	\$	500,000
Walkway Lighting Improvements	\$	135,000
Wheeler Epoxy all Bathroom floors	\$	102,000
Wheeler Hot water heater shell replacement	\$	5,000
Wheeler Renovations	\$	250,000
Woodruff Roof Replacement	\$	175,000
Subtotal	\$	6,958,400

Lyndon State College

Campus Underground Power Replacement	\$	750,000
Campus Energy Improvements	\$	156,000
President's House energy conservation upg	\$	31,000
Campus site plans upgrade	\$	44,000
Campus landscaping improvement	\$	25,000
Campus ADA compliance renovations	\$	36,500
Ball Field Lighting	\$	855,000
Vail Center entrance door replace.	\$	23,000
Vail Roof Replacement	\$	215,000
Campus Exterior Lighting Replacement	\$	100,000
Chem Lab Fume Hood Replacement	\$	69,000
Activities Building Superior boiler burner repl	\$	185,000
Alumni House Renovation	\$	950,000
Theater stage floor replacement	\$	61,000
Sculpture retaining wall replacement	\$	82,500
Campus buildings masonry repairs	\$	300,500
Shape walkway replacement	\$	30,000
Stonehenge lounge kitchens	\$	291,500
Arnold / Bayley residence hall Sprinkler systems	\$	45,000
Stonehenge fire alarm panel replacement	\$	180,000
Arnold / Bayley elevator installation	\$	165,000
Rogers / Poland elevator installation	\$	90,000
Whitelaw / Crevecour elevator installation	\$	152,000
White / Crevecour Roof Replacement	\$	225,000
Stevens Dining Hall HVAC system engineering	\$	95,000
Stevens Restroom Renovation	\$	62,000
Residence Halls brick repointing	\$	368,000
Stonehenge bathroom ceiling replacement	\$	220,000
Stonehenge waterline replacement engineering	\$	198,000
Stevens Dining Hall HVAC replacement	\$	273,000
Stevens Dining Hall roof replacement	\$	180,000
Wheelock bathroom upgrade	\$	278,000
Wheelock waste piping & ventilation upgrade	\$	300,000
Wheelock Electrical Upgrade A&E	\$	30,000
Arnold / Bayley Roof Replacement	\$	225,000
Arnold / Bayley bathroom renovations	\$	150,000
Arnold / Bayley door replacement	\$	305,000
Rogers / Poland bathroom renovation	\$	180,000
Rogers / Poland Roof Replacement	\$	225,000
Rogers / Poland door replacement	\$	115,000
Whitelaw / Crevecour door replacement	\$	558,000
Stonehenge exterior panel replacement	\$	300,000
Stonehenge heat line replacement	\$	250,000
Subtotal	\$	9,374,000

Vermont Technical College

Auto Tech Roof Replacement	\$	150,000
Campus North Water Installation	\$	250,000
Center Campus Waterline Replacement	\$	400,000
Conant 102 (PIT) Renovation	\$	27,500
Conant Window Replacement	\$	165,000
Dormitory Elevators (5 units)	\$	2,000,000
Farmstead Storage Barn Roof Replacement	\$	50,000
Green Hall a/c unit replacement	\$	175,000
Green Hall Floor & Ceiling Replacement	\$	100,000
Green Hall Recaulking	\$	30,000
Hartness Roof Replacement	\$	135,000
Judd Hall Roof Replacement	\$	125,000
Morey Entry Door Replacement	\$	25,500
Morey Kitchen HVAC Replacement	\$	400,000
Morey Kitchen Renovation	\$	600,000
Morrill Hall Roof Replacement	\$	250,000
Morrill Window Replacement	\$	225,000
Nutting Mechanical Upgrade	\$	450,000
Nutting Plumbing Upgrade	\$	500,000
Nutting Restroom Renovations	\$	350,000
Nutting Windows Replacement	\$	225,000
Parking Lot Repairs and Repaving	\$	450,000
Power House Steamline Replacement	\$	75,000
Sewer Pump Station Replacement	\$	175,000
Ski Hill Maintenance & Renovation	\$	75,000
Underground Power Replacement	\$	600,000
Walkway Repairs and Replacement	\$	82,000
Williston Additional Parking	\$	950,000
Williston West Building Roof Replacement	\$	120,000
Campus Heating Plant Boiler	\$	650,000
Campus Steamline Replacements	\$	425,000
Green Hall Retaining Wall Replacement	\$	110,000
Morey Kitchen Utility Infrastructure Replacement	\$	180,000
Green Hall Roof Replacement	\$	160,000
Green Hall Window Replacement	\$	145,000
Keenan Hall Electrical / Plumbing infrastructure Replacement	\$	250,000
Conant Roof Replacement	\$	95,000
Norwich Farm Exterior Paints and Repairs	\$	135,000
Subtotal	\$	11,310,000

Johnson State College

Site

Bentley parking lot improvements	\$	750,000
Campus Sidewalk Replacement	\$	400,000
Campus Underground Power Replacement	\$	500,000
Card Access and Hardware Upgrades	\$	125,000
Cross Country Trail improvement	\$	29,000
General site improvements	\$	250,000
Improve Clay Hill Entrance	\$	75,000
Install Building Back Flow Preventers & Pressure Regulators	\$	35,000
Landscape master plan/management plan	\$	75,000
Pave Parking Lot East of Gov's, Senators, Stearns, Arthurs	\$	1,000,000
Paver removal at Gov's Entrance and sidewalk from Parking (Paving)	\$	50,000
Site lighting improvements	\$	225,000
Replacement of AC Water piping and valves on Campus	\$	1,600,000
Road Siding / Swale work	\$	50,000
Roadway & parking lot repaving	\$	300,000
Safety improvements to "Y" intersection	\$	150,000
Safety To Life Projects	\$	50,000
Sidewalks along loop road	\$	75,000
Signage and way finding	\$	150,000
Tennis Court Rebuild	\$	250,000

Barn

Electrical Service / Water and limited lighting	\$	17,500
Road Grading	\$	12,000

Library & Learning Center

ADA-compliant audio-visual booth	\$	9,500
Card Access System	\$	25,000
Replace Key System	\$	25,000
Install back flow and pressure regulator at water service entrance / Water meter	\$	8,500
Install new carpet in selected areas	\$	100,000
Landscaping	\$	15,000
Lighint replacement Maintenance	\$	75,000
Modify/replace handrails for ADA	\$	6,000
Repaint decorative sunscreen metal work	\$	25,000
Replace drinking fountains with ADA "hi-low" fountains	\$	25,000
Replace failed entrance sidewalk	\$	50,000
Replace roof	\$	275,000
Replace windows with broken seals	\$	70,000
Seal and waterproof the building envelope	\$	65,000
Sump pumps/exhaust for steam pit	\$	13,500
Upgrade finishes	\$	75,000

Dibden Center for the Arts

ADA Elevator Front RH side of building	\$	250,000
ADA-compliant signage	\$	5,000
Backflow preventer/water meter	\$	7,000
Bring Stairs into Safety compliance	\$	100,000
East stairs code compliance	\$	46,000
Em lighting improvements	\$	35,000
Emergency generator for Dibden & Bentley	\$	81,000
Enclose lobby stairs on second floor	\$	12,000
Exterior Painting / Sealing	\$	45,000
Fire-rated ADA-compliant doors	\$	118,000
Handrails at first floor and basement	\$	25,000
Install em generator that serves both Dibden and Bentley	\$	150,000
Install Security System	\$	15,000
Loading dock handrail/guardrail	\$	13,000
New passenger elevator - north side	\$	263,000
Paint and interior upgrades in theatre proper	\$	75,000
Perimeter heating w/DDC controls	\$	202,500
Proscenium Curtain	\$	225,000
Renovate Dressing rooms and adjacent bathrooms	\$	75,000
Renovate dressing/toilet rooms	\$	181,500
Renovate dressing/toilet rooms for ADA	\$	32,000
Renovate gallery for 3 teaching spaces	\$	55,000
Renovate Hall ceiling and lighting system	\$	112,000
Replace AHUs and exhaust fans and controls	\$	150,000
Replace air handling units/exhaust fans	\$	267,500
Replace chiller	\$	135,000
Replace drinking fountains for ADA	\$	5,500
Replace entry doors/sidelights for ADA	\$	55,000
Replace FA system with point ID / voice notification/ Em Exit Signage	\$	30,000
Replace Failed Sidewalk	\$	15,000
Replace fire alarm system	\$	101,500
Replace incandescent lighting	\$	81,000
Replace Lower Roof	\$	100,000
Replace membrane roof	\$	222,000
Replace stage floor	\$	785,000
Sprinkler Entire Building	\$	115,000
Stage floor electrical receptacles	\$	2,500
Test electrical panels	\$	4,000
Upgrade fluorescent lighting	\$	75,000
Upgrade House lighting	\$	125,000
West stairs code compliance	\$	32,000

Carter/SHAPE

ADA-compliant handrail in north stair	\$	1,000
ADA-compliant signs	\$	3,500
Add SOLAR heating assistance	\$	85,000
Back Storage area off of the Multi Gym (2000 Sq.')	\$	150,000
Exterior Landscaping	\$	15,000
HW Distribution system upgrades	\$	75,000
Improve Racquet Ball Ventilation	\$	45,000
Install emergency generator	\$	81,000
Install water softener	\$	13,500
Lighting replacement Maintenance	\$	10,000
Locker Room Upgrades	\$	200,000
Paint Multi-Gym / Ceilings / FRP Sheetrock Walls	\$	30,000
R Ball Court Renovation / Infill / Floor / Etc	\$	85,000
Repair Paver entrance	\$	50,000
Replace AHU's	\$	75,000
Replace corridor floor	\$	18,000
Replace drinking fountains for ADA	\$	9,000
Replace electrical panels	\$	3,000
Replace lighting in pool	\$	13,500
Replace membrane roof	\$	180,000
Upgrade heating controls to DDC	\$	34,000
Waterproof and Seal the building envelope	\$	84,000

McClelland Hall

Fire alarm System Eplacement	\$	15,000
Flooring Upgrades	\$	75,000
General Renovation Classrooms / Bathrooms / Offices	\$	500,000
Install emergency generator	\$	70,000
Install fire-rated doors	\$	7,000
Install handrails and guards	\$	20,500
Install occupancy sensors/controls	\$	20,500
Install sump alarms linked to DDC	\$	8,000
Interior Painting	\$	50,000
Lighting upgrade	\$	45,000
Modify boiler piping	\$	13,500
Parking upgrades	\$	125,000
Remove and relocate 2nd set of stairs	\$	125,000
Renovate HC entrance	\$	20,000
Repair / replace and paint rotten Fascia	\$	20,000
Repair boiler room wall	\$	4,000
Replace entrance vestibule doors	\$	28,500
Replace water service entrance	\$	20,500
Replacement of carpeting	\$	25,000
Restore fire escape	\$	14,000
Solar Hot Water	\$	75,000
Sprinkler Installation	\$	75,000
Upgrade elevator alarm interface	\$	7,000

Martinetti Hall

ADD AC for First Floor Part II	\$	250,000
Additional Trash room with Exhaust	\$	15,000
Asbestos abatement	\$	70,000
Card Access to offices	\$	25,000
Complete Ventilation & HVAC	\$	1,250,000
Construct new entry to Admissions / Parking and Addition	\$	150,000
Electrical Transformer Upgrade	\$	75,000
Exhaust system replacement	\$	38,000
Heating System upgrade	\$	450,000
Improve safety & appearance of west stair	\$	33,000
Install air conditioning in 2nd/3rd offices	\$	135,000
Install air handling system for first floor front	\$	67,500
Install elevator	\$	282,000
Install sprinkler system	\$	625,000
Install sprinkler system	\$	216,000
Install unit ventilators - 2nd/3rd classrooms	\$	54,000
Install water meter at service entrance	\$	4,000
Lighting replacement Maintenance	\$	65,000
Lighting upgrade in dorm rooms	\$	60,000
Modify generator to prevent freeze-up	\$	27,000
New Emergency Generator to pick up entire building	\$	90,000
Ramp/accessible entrance to Admissions	\$	57,500
Renovate 2nd/3rd toilet rooms for ADA	\$	284,000
Renovate first floor administrative offices	\$	2,200,000
Repaint and Repair Window Brick and Sills	\$	125,000
Repair exterior brick and entrances	\$	199,800
Repair planter and Academic Deans Entrance	\$	45,000
Replace 2nd & 3rd floor lighting	\$	54,000
Replace entire heating system	\$	540,000
Replace entrance doors for ADA	\$	4,400
Replace exhaust ventilation system	\$	40,500
Replace first floor drinking fountain for ADA	\$	2,000
Replace flooring on second floor north wing	\$	34,000
Replace four single-glazed windows on first	\$	34,900
Replace hot water heating equipment	\$	34,000
Replace non fire rated doors and em. hardware / mag holders	\$	55,000
Replace south elevation storefront	\$	153,500
Replace two egress doors for safety	\$	7,500
Replacement of dormitory doors	\$	17,000
Rewire 2nd & 3rd floors/devices	\$	34,000
Solar Hot Water System / Assistance	\$	95,000
Upgrade HVAC system (2nd and 3rd FL)	\$	450,000

Maintenance Building

Addition	\$	250,000
Expand fire alarm system	\$	10,000
Generator	\$	55,000
Install accessible sidewalk to entrance	\$	18,500
Install backflow preventer	\$	10,000
Install emergency lighting	\$	4,000
Install exit signs	\$	3,000
Insulate exterior walls with EIFS	\$	120,500
Interior repainting	\$	50,000
Lighting replacement Maintenance	\$	12,000
New Doors and Windows	\$	40,000
New Salt/ Sand shed	\$	80,000
Pave the parking lot , drive , drain line	\$	85,000
Renovate hallway and toilet rooms for ADA	\$	52,000
Replace existing stair with steel	\$	12,000
Replace Fascia	\$	15,000
Replace furnace in garage	\$	11,000
Replace heating system in office and shop	\$	67,500
Rework Leech Field	\$	15,000
Roof over Compactors / safety	\$	35,000
Sprinkler Building	\$	28,000

Dewey Campus Center

Replace Key System	\$	20,000
Exterior Painting / Sealing	\$	20,000
Flooring upgrades	\$	20,000
Installation of air conditioning	\$	202,500
Install water meter	\$	4,000
Lighing replacement	\$	40,000
Interior Painting	\$	40,000
Re-carpet Building	\$	65,000
Relocate hot water pumps/piping	\$	4,000
Renovate toilet rooms for ADA	\$	110,000
Replace drinking fountains for ADA	\$	4,000
Replace sump pumps	\$	7,000
Stair and Sidewalk constuction	\$	25,000
Window Replacement	\$	320,000

Bentley Hall

Bentley Sound Entenuation (207)	\$	38,000
Duct System Cleaning	\$	25,000
New Electrical transfer switch and panel	\$	67,500
Perimeter heating w/DDC controls	\$	405,000
Repair Exterior brick and concrete walls	\$	375,000
Replace Dimmer system and lighting in 207	\$	75,000
Replace AHU's	\$	110,000
Roof Replacement	\$	165,000

Presidents House

ADA Hardware	\$	12,500
Drive Repair	\$	48,000
Exterior Painting	\$	13,000
Install Fire Alarm / Security System	\$	10,000
Interior Painting	\$	12,000
Landscaping	\$	15,000
Repair Foundation at Garage	\$	20,000
Sprinkler System	\$	10,000

Governors

Bathroom Upgrades	\$	270,000
Complete Sprinklering of the building	\$	125,000
Electric Hot Water Upgrade /Solar	\$	110,000
Electrical upgrades	\$	200,000
Elevator	\$	308,000
Elevator	\$	275,000
Elevator (2nd)	\$	275,000
Exterior trash shoots	\$	45,000
Fire Alarm upgrade	\$	45,000
Interior Painting	\$	100,000
Lighting	\$	150,000
Lighting replacement Maintenance	\$	60,000
New Stair Treads	\$	20,000
Remove Broken Pavers and Road Repair	\$	100,000
Repair decks	\$	40,000
Repair foundation and retaining walls	\$	75,000
Card Access upgrade	\$	50,000
Window replacement	\$	15,000

Stearns

Exterior brick repair & Seal	\$	450,000
Hot Water Upgrade	\$	75,000
Additional Parking at Mail Room	\$	15,000
Front Entrance Lighting	\$	15,000
Walk In Coolers Compressor Upgrade With Back Up	\$	50,000
Solar Hot Water with TES	\$	125,000

Senators

ADA hardware	\$	42,000
Asbestos removal	\$	60,000
Card Access upgrade	\$	50,000
Complete Sprinklering of the building	\$	150,000
Elevator	\$	275,000
Elevator 1st	\$	275,000
Elevator (2nd)	\$	275,000
HW upgrades	\$	60,000
Interior Painting	\$	75,000
Interior Upgrades	\$	100,000
Lighting replacement Maintenance	\$	50,000
Lighting Upgrades	\$	135,000
New Stair Treads	\$	20,000
Repair decks	\$	60,000
Revamp Counseling Ctr and Health Center Bathrooms	\$	35,000
Solar Hot water	\$	150,000
Transformer replacement	\$	35,000
Exterior Trash shoot	\$	45,000
Upgrade Electrical Gear / Meter	\$	67,000
Upgrade Fire alarm system	\$	35,000

VAC

Exterior Wood Finish / replacement	\$	20,000
Grounds Work / Drainage / Landscaping	\$	35,000
Mechanical Room Addition / MAU	\$	45,000

College Apartments

Construct Parking Lots / Drive / Sidewalk	\$	200,000
Electrical system upgrade	\$	175,000
Electronic Card Locks 75 @ \$450	\$	40,000
Flooring upgrades	\$	143,000
Heating conversions	\$	172,000
Kitchen Upgrades	\$	150,000
Lighing replacement Maintenance	\$	30,000
Sprinkler all apartments	\$	150,000

Arthur Hall

ADA Compliance Hardware	\$	25,000
Cable Television Wiring Retrofit	\$	7,000
Continue renovations for Wellness Center	\$	50,000
Door replacement	\$	22,000
Elevator/Replacement	\$	300,000
Flooring upgrade	\$	13,000
Front Door Replacement	\$	15,000
Heating Control upgrades 2nd 3rd,	\$	65,000
Heating system replacement	\$	500,000
Improve boiler room safety	\$	25,000
Interior painting	\$	30,000
Interior Upgrades	\$	150,000
Laundry room upgrades	\$	45,000
Lighting replacment / maintenance	\$	15,000
Loading Dock Repair / Stair	\$	25,000
Railing replacement	\$	12,500
Replace #1 & #2 boilers	\$	472,000
Replace chemical room ventilation system	\$	20,500
Replace Window walls windows	\$	75,000

Subtotal **\$ 33,797,600**

VSC Project Total **\$ 62,040,000**

2. VSC Debt Review

a. VSC Overview Debt Schedule Review (2016-2042)

Below is a schedule that shows the principal and interest by college and year. The debt is fairly linear for the next five years. The debt steps up a little during years 2021-2025 due to the Series 2013 (Series 2003 refi) principal increasing during this timeframe – most of the Series 2013 was sold in the out years due to the yield curve being favorable there. In addition the TD Bank SWAP was structured so the principal payments increased annually over the life of the loan. As with most debt the principal was structured lower in the beginning to allow the constructed assets time to start paying for themselves (i.e., dormitories). The sudden increase in the debt schedule during years 2026-2030 is due to the TD Bank balloon payment of \$39,201,834 in year 2028. We have assumed from the start that this loan will have to be refinanced when the interest rate market becomes favorable. Years 2031 and beyond reflect the systematic pay down of the principal.

Vermont State Colleges
Debt by College at June 30, 2015

Years ending June 30,	VSC		CCV		CU		JSC		LSC		VTC	
	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest
2016	\$4,661,213	\$5,560,090	\$798,551	\$1,143,094	\$1,804,007	\$2,147,438	\$628,633	\$617,778	\$693,795	\$916,991	\$736,227	\$734,789
2017	\$5,422,083	\$5,325,744	\$888,813	\$1,096,161	\$2,080,864	\$2,052,427	\$759,843	\$594,536	\$880,893	\$874,742	\$811,670	\$707,878
2018	\$5,647,584	\$5,078,704	\$929,215	\$1,047,819	\$2,166,669	\$1,955,575	\$790,822	\$569,656	\$916,759	\$830,576	\$844,119	\$675,078
2019	\$5,707,937	\$4,854,637	\$1,028,013	\$1,003,559	\$2,235,777	\$1,868,967	\$671,522	\$543,745	\$964,154	\$796,304	\$808,471	\$642,062
2020	\$4,384,276	\$4,678,926	\$687,207	\$970,834	\$2,002,502	\$1,787,723	\$479,292	\$547,571	\$506,652	\$762,958	\$708,623	\$609,840
2021-2025	\$24,874,187	\$20,254,413	\$5,147,666	\$4,218,645	\$10,013,813	\$7,664,975	\$2,584,927	\$2,280,489	\$4,154,253	\$3,391,150	\$2,973,528	\$2,699,154
2026-2030	\$56,827,823	\$10,937,003	\$13,340,485	\$2,069,245	\$20,541,298	\$4,180,189	\$6,603,021	\$1,241,312	\$10,493,202	\$1,746,798	\$5,849,817	\$1,699,459
2031-2035	\$10,051,106	\$3,147,112	\$1,513,481	\$322,199	\$4,068,092	\$1,305,280	\$803,756	\$375,015	\$2,042,030	\$291,527	\$1,623,747	\$853,091
2036-2040	\$7,805,000	\$1,250,264	\$2,682,931	\$86,223	\$2,468,136	\$574,160	\$662,375	\$144,280	\$267,848	\$49,146	\$1,723,710	\$396,455
2041	\$1,795,000	\$0	\$39,153	\$0	\$991,800	\$0	\$152,502	\$0	\$133,764	\$0	\$477,781	\$0
	\$127,176,209	\$61,086,893	\$27,055,515	\$11,957,779	\$48,372,958	\$23,536,734	\$14,136,693	\$6,914,382	\$21,053,350	\$9,660,192	\$16,557,693	\$9,017,806
	100%	100%	21%	20%	38%	39%	11%	11%	17%	16%	13%	15%

b. VSC Bonds and Loans

Bond or Note Payable:

O/S Principal as of June 30, 2015:

Revenue Bonds, Series 2010A

\$6,741,464

Serial bonds (or installment bonds) with amortization through 2018. These revenue bonds are collateralized by the general revenue of the corporation. The interest rate ranges between 3% - 4% depending on the bond issuance date. The Series 2010A Bonds were issued primarily for the purpose of refinancing a portion of the Series 1998 Bonds and refinancing other indebtedness of VSC including loans to improve the colleges.

Revenue Bonds, Series 2010B (Build America Bonds)

\$30,265,000

Serial bonds (or installment bonds) with amortization through 2040. These revenue bonds are collateralized by the revenue generated by these projects. The interest rates range from 4.8% - 7.2% depending on the issuance date. We pay a little higher interest to the bondholders with the Series 2010B but the federal government gives the VSC a 35% subsidy for the interest paid. The Build America Bonds were part of the federal stimulus plans. The interest subsidy is subject to federal sequester. The Series 2010B were issued primarily for the purpose of (1) financing the 12,000 foot addition to CCV Montpelier; (2) constructing a new residence hall at Castleton; (3) building renovations at JSC; (4) building renovations at LSC along with parking lot expansion; (5) building renovations at VTC.

TD Bank SWAP 2005

\$3,363,177

A fixed term loan with an amortization through 2025. The interest rate on this loan is 4.97%. This loan is collateralized by substantially all unrestricted revenue and assets not previously pledged as collateral on other debt. This loan was executed primarily for new housing at Castleton.

TD Bank SWAP 2008

\$64,804,979

A fixed term loan with an amortization through 2028. The interest rate on this loan is 4.63%. During 2028 there is a balloon payment of \$39,201,834 to retire this loan. This loan is collateralized by substantially all unrestricted revenue and assets not previously pledged as collateral on other debt. The 2008 loan was executed primarily for the purpose of (1) the construction of CCV Winooski; (2) the renovation of the Castleton campus center and gymnasium along with the construction of the Spartan Stadium; (3) the

Stearns renovation at JSC; (4) the renovation of the academic building and student center at LSC; (5) and renovation of the Williston academic building and Randolph housing at VTC. Part of this loan was also used for deferred maintenance projects throughout the VSC colleges.

TD Bank SWAP	2009	\$2,151,324
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A fixed term loan with an amortization through 2032. The interest rate on this loan is 5.25%. This loan is collateralized by substantially all unrestricted revenue and assets not previously pledged as collateral on other debt. This loan was executed primarily to purchase CCV 660 Elm Street in Montpelier.

Revenue Bonds, Series 2013	\$19,850,265
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Serial bonds (or installment bonds) with amortization through 2032. The Series 2013 Bonds were issued primarily for the purpose of refinancing a portion of the Series 2003 Bonds. The Series 2003 Bonds had an average interest rate of 4.67% - the Series 2013 Bonds have an average interest rate of 3.62%. This resulted in a \$1.8M savings in interest. These revenue bonds are collateralized by the general revenue of the corporation.

c. VSC Covenant Review

TD Bank

The VSC has two loan covenants associated with the TD Bank loans that is due to them after the annual audit. An independent annual audit and the satisfactory compliance with the Debt Service Coverage are the two covenants. In order to maintain compliance with this covenant it is vital that the VSC does not allow further degradation of Net Income. Based on the numbers below if Net Income were ~\$5,000,000 less we would be out of compliance with this covenant.

TD Bank Financial Covenants
6/30/15

Debt Service Coverage Ratio with GASB 45

Net Income	+	(10,254,090)
Taxes	+	0
Depreciation	+	14,087,773
Amortization	+	0
Cash Taxes	-	0
Interest Expense	+	5,758,495
GASB 45 Adjustments	+	5,789,775
		<u>15,381,953</u>
(divided by)		
Interest Expense	+	5,758,495
CPLTD	+	4,661,213
		<u>10,419,708</u>

Actual Ratio is	1.48
Ratio of at least 1.00	1.00

Bond Covenants

The VSC has three bond covenants; an independent annual audit along with a no default certificate and the submission of supplementary information to the bondholders. These documents are due at the end of every October.

d. Update on VSC Consultant Engagement

Rick Beyer, the consultant from AGB Consulting has made two trips to each of the four campus based colleges. The meetings have been with college leadership, and others as appropriate, and have been very open and frank. The discussions have focused almost exclusively on growth and revenue opportunities. Rick has been gathering data and statistics and following up with specific individuals for more in depth discussion. A midterm report is due to the OC by late November in which ideas will start to be teased out.