

KREBS & LANSING

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December 1, 2017

Matt Boulanger
Senior Planner
Planning & Zoning Officer/Town Hall Annex
7900 Williston Road
Williston, Vermont 05495



DP 18-05



RE: Bryan Harnett, Burlington Emergency & Veterinary Specialists
Lot 26 of Production Park
Marshall Avenue, Williston, Vermont

Dear Matt,

Please find attached a discretionary permit application for the Burlington Emergency & Veterinary Specialists project. This project is a 17,384 square foot building with a 68 space parking area located on Lot 26 of Production Park. The site plan includes an additional 18 parking spaces that will be built only if needed. The served by municipal waste and wastewater. All stormwater will be treated on the parcel. A new State of Vermont Stormwater Discharge Permit will be required. The 10 foot wide recreation path will be built as part of the project.

Please feel free to call if you have questions or comments.

Best regards,

Ian A. Jewkes, P.E., L.L.S.

Burlington Emergency Veterinary Service

Marshall Avenue, Williston, VT

Traffic Impact Assessment

November 27, 2017

Project Introduction

Burlington Emergency Veterinary Service (BEVS) proposes to construct a 17,105 sf animal hospital/veterinary clinic (the "Project") on Lot 26 of the Production Park commercial subdivision. BEVS is presently located in a 5,048 sf building located at 200 Commerce Street in Williston; which they have outgrown. In addition to providing routine veterinary care, BEVS also provides both emergency veterinary care and surgical services on a 24/7 basis. Many of those cases are referrals from other local veterinary clinics.

Lot 26 is located on the west side of Marshall Avenue, opposite Champlain Oil's fleet fueling facility between Leroy Rd and Shunpike Rd. BEVS will access onto Marshall Avenue via a new curb cut/driveway located so as to line up with Champlain Oil's southerly curb cut.

Project-Generated Vehicular Trips

BEVS's existing weekday pm peak hour vehicular trip generation at their Commerce St location was determined from two afternoon peak period trip generation counts performed by Krebs & Lansing Consulting Engineers, Inc. The first count, performed on Monday October 23, 2017, observed a pm peak of 14 vehicle trips per hour (vte/hr) between 5:00-6:00 pm. The second count, performed on Thursday October 26, 2017, observed a pm peak of 23 vte/hr between 4:45-5:45 pm. Averaging those two counts results in an average of 19 vte/hr at the existing facility. The corresponding average pm peak hour trip generation rate, based on the existing gross floor area, equals 3.76 vte/hr/1,000 sf.

The above observed pm peak hour trip generation rate is approximately 7% higher than ITE's pm peak hour trip generation rate of 3.53 vte/hr/1,000 sf¹. This difference is likely attributable to BEVS's existing facility having insufficient space for the number of pets being cared for. Table 1 presents the existing and proposed number of peak hour trips for both morning and afternoon peak hours based on ITE trip generation rates.

Table 1 - Weekday Peak Hour Vehicle Trip Ends (vte/hr)

	AM			PM		
	Enter	Exit	Total	Enter	Exit	Total
Existing	12	6	18	7	11	18
Proposed	42	20	62	24	36	60
Net Additional ²	30	14	44	17	25	42

¹ *Trip Generation*, Institute of Transportation Engineers, 10th Edition, Land-Use Category #640 - Animal Hospital/Veterinary Clinic

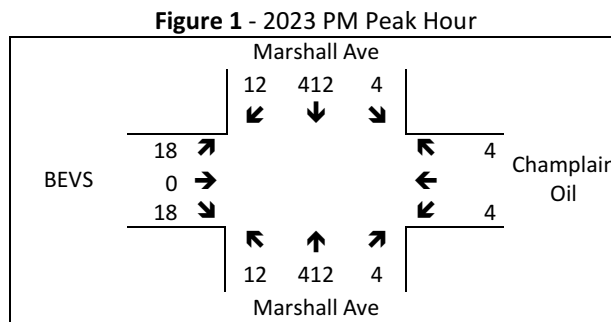
² With both the existing and proposed facilities being located in Williston, the net additional peak hour trips are shown for purposes of transportation impact fee assessments.

Background Traffic

Daily traffic volumes on Marshall Avenue were last counted in 2016 by the Vermont Agency of Transportation (VTrans) at the South Burlington/Williston town line west of Shunpike Rd. The count was unfortunately performed over the July 4th holiday weekend which resulted in an abnormally low annual average daily traffic volume (AADT) of 7,400 vpd. Examining a weekday (Thursday, June 30) in that count shows a higher daily volume of 11,800 vpd, with peak hour volumes ranging between 1,000-1,100 vph.

Traffic volumes on Marshall Avenue south and east of Shunpike Rd past the project site are considerably lower than those west of Shunpike Road. Based on turning movement count data from the Shunpike Road and South Brownell Road intersections, weekday pm peak hour volumes on Marshall Ave past the project site are estimated to equal 700-800 vph. The higher estimate of 800 vph will be used in the following analyses.

Current VTrans traffic data and projections indicate a 1% growth rate in background traffic volumes from 2016 to 2018, and a 3% growth rate from 2016 to 2023 (the standard 5-year projection from anticipated project completion in 2018). Therefore, the above pm peak hour volume was increased by 3% in order to estimate year 2023 peak hour volumes. Turning movements entering and exiting the Champlain Oil fleet fueling facility were obtained from the traffic impact assessment dated February 2010 performed by this office for that project. Figure 1 presents the estimated 2023 peak hour turning movements at the Marshall Ave/BEVS Access/Champlain Oil Access intersection.



Traffic Congestion

Levels of service (LOS) at intersections are determined by average control delay; measured in seconds per vehicle. The methodology for analyzing LOS is established by the *Highway Capacity Manual (HCM)*³. Table 2 summarizes the delay thresholds for each LOS at unsignalized intersections.

Table 2 - Unsignalized Intersection Level of Service Criteria

LOS	Avg. Delay*	LOS	Avg. Delay*
A	≤10	D	≤35
B	≤15	E	≤50
C	≤25	F	>50

* seconds per vehicle

³ *Highway Capacity Manual*, Transportation Research Board, 2010

In Vermont, LOS D represents the desired design standard for unsignalized intersections⁴. Reduced levels of service are acceptable in densely settled areas where volume/capacity ratios remain below 1.0 and/or the improvements required to achieve a better LOS would create adverse environmental and cultural impacts. Transportation demand management (TDM) strategies can also be used to help mitigate levels of service at locations not meeting the above standards.

The results of the intersection capacity analyses at the Marshall Ave/Project Access intersection are summarized in Table 3. Detailed analysis worksheets are enclosed in **Appendix A**.

Table 3 - Marshall Ave/BEVS Access/Champlain Oil Access Levels of Service

Approach & Lane Group	2023 PM Peak Hour					
	No-Build			Build		
	LOS	Delay	V/C	LOS	Delay	V/C
Marshall Ave NB LT	-	-	-	A	8.2	0.01
Marshall Ave SB LT	A	8.1	0.00	A	8.1	0.00
BEVS EB LT/RT	-	-	-	C	15.5	0.09
Champlain Oil WB LT/RT	B	13.2	0.02	B	14.9	0.02

The above results indicate that this Project will minimally impact future traffic congestion conditions on the roadway network in the vicinity of the Project.

Safety

A review of the current VTrans High Crash Location Report⁵ indicates that there are no high crash locations in the vicinity of this Project.

Marshall Avenue is a Class 2 town highway and a major collector. The roadway is approximately 28 ft wide, with 12 ft travel lanes and 2 ft paved shoulders. Its speed limit is 30 mph.

Intersection sight distances were measured from the location of BEVS’s proposed driveway access. To the north, 450 ft of sight distance is available before Marshall Ave curves sufficiently such that a snow bank or other roadside obstacle would block the view of oncoming vehicles. To the south, sight distances extend beyond the Leroy Rd intersection. Leroy Rd is located approximately 640 ft south of the proposed access. In comparison, AASHTO design standards⁶ recommend 335 ft of intersection sight distance for traffic traveling at 30 mph.

Multi-Modal Facilities

Green Mountain Transit does not provide local transit service along Marshall Avenue. Similarly, there are no existing sidewalks or bicycle facilities on Marshall Ave in the vicinity of this Project. This Project, however, includes the construction of a new 10 ft wide paved shared use path the length of its lot frontage. This isolated segment

⁴ Vermont Agency of Transportation Highway Design “Level of Service” Policy, May 31, 2007

⁵ Vermont Agency of Transportation 2012-2016 High Crash Location Report, August 2017

⁶ *A Policy on Geometric Design of Highways and Streets*, American Association of State Highway and Transportation Officials, 2011

will ultimately be extended to connect to existing shared use paths on Kimball Ave in South Burlington and on Marshall Ave at South Brownell Rd in Williston.

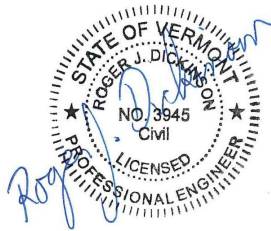
Fair-Share Contribution

Chapter 45 of the Town of Williston's Land Development Regulations (LDR) requires all development in the Town of Williston to pay a transportation impact fee. For commercial projects, the fee is \$700 per pm peak hour vehicle trip end. Based on 42 additional pm peak hour trips, the local transportation impact fee for this Project will be \$29,400.

VTrans has also calculated a state transportation impact fee of \$349 per pm peak hour vehicle trip end for future capital improvements at the I-89/VT 2A Exit 12 interchange. However, Williston's impact fee also includes the same interchange improvements. The state transportation impact fee therefore can be waived for this Project.

Conclusion

We conclude, based on the foregoing analyses, that the proposed Burlington Emergency Veterinary Service animal care facility located at Lot 26 of the Production Park commercial subdivision will not create adverse traffic congestion or unsafe conditions on the surrounding roads and intersections.



APPENDIX A

**Intersection Capacity Analysis
Worksheets**

TWO-WAY STOP CONTROL SUMMARY							
General Information				Site Information			
Analyst	R. Dickinson			Intersection	Marshall Ave/BEVS Access		
Agency/Co.	Lamoureux & Dickinson			Jurisdiction	Williston		
Date Performed	11/22/2017			Analysis Year	2023 No-Build		
Analysis Time Period	PM Peak Hour						
Project Description 17115							
East/West Street: Champlain Oil/BEVS				North/South Street: Marshall Ave			
Intersection Orientation: North-South				Study Period (hrs): 1.00			
Vehicle Volumes and Adjustments							
Major Street	Northbound			Southbound			
Movement	1	2	3	4	5	6	
	L	T	R	L	T	R	
Volume (veh/h)		412	4	4	412		
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	0	412	4	4	412	0	
Percent Heavy Vehicles	0	--	--	0	--	--	
Median Type	Undivided						
RT Channelized			0				0
Lanes	0	1	0	0	1	0	
Configuration			TR	LT			
Upstream Signal		0			0		
Minor Street	Eastbound			Westbound			
Movement	7	8	9	10	11	12	
	L	T	R	L	T	R	
Volume (veh/h)				4		4	
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly Flow Rate, HFR (veh/h)	0	0	0	4	0	4	
Percent Heavy Vehicles	0	0	0	0	0	0	
Percent Grade (%)	0			0			
Flared Approach		N			N		
Storage		0			0		
RT Channelized			0			0	
Lanes	0	0	0	0	0	0	
Configuration					LR		
Delay, Queue Length, and Level of Service							
Approach	Northbound	Southbound	Westbound			Eastbound	
Movement	1	4	7	8	9	10	11
Lane Configuration		LT		LR			
v (veh/h)		4		8			
C (m) (veh/h)		1154		445			
v/c		0.00		0.02			
95% queue length		0.01		0.05			
Control Delay (s/veh)		8.1		13.2			
LOS		A		B			
Approach Delay (s/veh)	--	--	13.2				
Approach LOS	--	--	B				

TWO-WAY STOP CONTROL SUMMARY									
General Information				Site Information					
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Analysis Time Period	PM Peak Hour								
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East/West Street: Champlain Oil/BEVS				North/South Street: Marshall Ave					
Intersection Orientation: North-South				Study Period (hrs): 1.00					
Vehicle Volumes and Adjustments									
Major Street	Northbound			Southbound					
Movement	1	2	3	4	5	6			
	L	T	R	L	T	R			
Volume (veh/h)	12	412	4	4	412	12			
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00			
Hourly Flow Rate, HFR (veh/h)	12	412	4	4	412	12			
Percent Heavy Vehicles	0	--	--	0	--	--			
Median Type	Undivided								
RT Channelized			0					0	
Lanes	0	1	0	0	1	0			
Configuration	LTR			LTR					
Upstream Signal		0			0				
Minor Street	Eastbound			Westbound					
Movement	7	8	9	10	11	12			
	L	T	R	L	T	R			
Volume (veh/h)	18		18	4		4			
Peak-Hour Factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00			
Hourly Flow Rate, HFR (veh/h)	18	0	18	4	0	4			
Percent Heavy Vehicles	0	0	0	0	0	0			
Percent Grade (%)	0			0					
Flared Approach		N			N				
Storage		0			0				
RT Channelized			0			0			
Lanes	0	0	0	0	0	0			
Configuration		LR			LR				
Delay, Queue Length, and Level of Service									
Approach	Northbound	Southbound	Westbound			Eastbound			
Movement	1	4	7	8	9	10	11	12	
Lane Configuration	LTR	LTR		LR			LR		
v (veh/h)	12	4		8			36		
C (m) (veh/h)	1146	1154		372			380		
v/c	0.01	0.00		0.02			0.09		
95% queue length	0.03	0.01		0.07			0.31		
Control Delay (s/veh)	8.2	8.1		14.9			15.5		
LOS	A	A		B			C		
Approach Delay (s/veh)	--	--		14.9			15.5		
Approach LOS	--	--		B			C		

DRAFT

CERTIFICATE OF EASEMENT AND DEDICATION

Being a permanent easement twenty feet (20') in width at all points, the location and center of which correspond with ten feet (10') on either side of the multi-use recreation path as laid, as depicted on a Plan entitled "Site Plan, BEVS Lot 26-Production Park," dated December 1, 2017 and prepared by Krebs & Lansing Consulting Engineers, Inc.

Appendix C - Model Development Agreement

Each development agreement must be carefully crafted to ensure compliance with the *Williston Development Bylaw*. This model and the accompanying annotations are a starting point.

-- Development Agreement --

This is an agreement between the Town of Williston (the Town) and (Bryan Harnett), (the Developer), the owner of (Burlington Emergency & Veterinary Specialists) (the Development), together known as the parties to this agreement.

1. What is the purpose of this agreement? The purpose of this development agreement, which is required by Section 7.1.5 of the *Williston Development Bylaw*, is to set forth in detail when and in accord with what plans and standards the Developer will construct or install the required improvements in the Development. This development agreement also addresses the inspection of those required improvements and establishes how the Developer will guarantee that the promised improvements are in fact made.

2. What is the term of this agreement? The term of this agreement begins when it is signed by the Town Manager and ends at the time the last promise is fulfilled by either of the parties. The Town Manager's signature will follow approval of the final plans for the Development by the Williston Development Review Board. This agreement must be signed by the Town Manager and recorded before an administrative permit for work on the Development will be approved.

When does the developer sign? The developer must provide a signed copy of the proposed development agreement with the final plans when they are submitted for review by the DRB.

3. On what consideration is this agreement based? The basis for this development agreement is the approval of the final plans submitted in compliance with the Williston Development Review Board's approval of Discretionary Permit 18-05. It is understood that the scope of this agreement is confined to the required improvements that are shown on the approved final plans (see Item 4, below) and listed in Attachment A of this agreement. This development agreement is not intended to address other conditions of approval.

Could a development agreement address other conditions of approval? It is possible that the town and a developer could use a development agreement to address conditions of approval that are not related to required improvements. That possibility is not anticipated in this model, but the language above could be revised and additional items addressing other types of conditions of approval could be added to a development agreement.

4. Are the approved final plans for the development part of this agreement? Yes.

4.A. the Simple Version: The final plans of the Development, as approved by the Williston Development Review Board on (date) are hereby incorporated into this agreement by reference. It is understood that those approved final plans are binding on the Developer and the Town, and that this creates a vested right for the Developer, as provided by WDB 2.2. It is also understood that only the minor changes in plans permitted by WDB 5.6 are permitted without renegotiation of this development agreement.

OR

4.B. the Phased Version: The final plans of the Phase/s I/I-n, approved by the Williston Development Review Board are hereby incorporated into this agreement by reference. It is understood that those approved final plans are binding on the Developer and the Town, and that this creates a vested right for the Developer, as provided by WDB 2.2. It is further understood that the final plans for additional phases of the Development will be submitted to the Williston Development Review Board for review in accord with the following schedule:

Phase	Final Plans to be Submitted Between	
	earliest date	latest date
III	1-May-10	1-May-11
IV-V	1-May-12	1-May-13

The blanks in this table are filled in to provide an example.

Changes in this schedule will require renegotiation of this development agreement, as provided for below. Finally, it is also understood that only the minor changes in plans permitted by WDB 5.6 are permitted without renegotiation of this development agreement.

5. What improvements are covered by this agreement? All proposed improvements that were approved by the Williston Development Review Board in its approval of Discretionary Permit 18-05 and its subsequent approval of the final plans for the Development are covered by this development agreement. Those improvements are listed in Attachment A which includes cost estimates for each proposed improvement.

6. Which construction standards apply to the improvements covered by this agreement? Construction or installation of the improvements listed in Attachment A shall be in accord with all applicable standards of the *Williston Development Bylaw* and the *Williston Public Works Standards*, including the state or national standards referenced in those documents, as they existed on the date the application for Discretionary Permit 18-05 was deemed complete by the town.

7. When must the improvements shown on the final plans and listed in Attachment A be made?

the Simple Version: All improvements shown on the approved final plan and listed in Attachment A must be made before a certificate of compliance will be issued. A temporary certificate of compliance may be requested, as provided by WDB 7.3.3.

OR

the Phased Version: Discretionary Permit 18-05 permits the Development to be constructed in (number) phases, which are shown on (reference to the map of phases from the approved final plans). Attachment A has also been organized by phase so that the list and the costs of the improvements to be made in each phase are clear. It is understood that all improvements shown on the approved final plan and listed in Attachment A for each phase must be complete before a certificate of compliance will be issued for that phase. A temporary certificate of compliance may be sought as provided by WDB 7.3.3, but any such certificate will be clearly conditioned on completion of the required improvements as provided by this development agreement.

8. Will inspections be required? Yes. All work covered by this development agreement is subject to inspection by the Town, as provided by WDB 7.1.7 and the *Williston Public Works Standards*.

8.A By the Town. It is understood that the signature of the Developer on this agreement constitutes permission for representatives of the Town to enter onto the private property of Developer for the purpose of completing these inspections. The Developer further agrees to provide the Town with entry into locked areas and to arrange for safe inspections of potentially hazardous sites. The Developer will also, at his/her expense, provide the opportunity for the Town to discuss work on the required improvements with contractors, designers, and employees retained by the Developer.

8.B Scheduling Inspections. A final inspection schedule consistent with the *Public Works Standards* will be set at the pre-construction meeting, the date, time, and place for which will be set by mutual agreement of the Town and the Developer.

8.C. By the Applicant. The Developer will provide (monthly) reports of inspections conducted by (engineers) to the Administrator and/or DPW.

9. Will as-built drawings be required? Yes. As-built drawings must be provided to the Town as required by WDB 7.1.9 and the *Williston Public Works Standards*.

10. What happens if the Developer fails to construct or install the improvements covered by this agreement in a timely manner? As provided by WDB 7.1.6.3, if the Developer fails to construct or install the improvements listed in Attachment A within the time frames established by this development agreement, the Town may use the securities provided in accord with 12 and 13, below, to complete the required improvements. If any funds remain in the escrow account after the Town has completed the required improvements, those funds will be returned to the Developer.

12. What securities must be provided to guarantee the completion of improvements that will become the property of the Town or another public agency? In accord with WDB 7.1.6.1, the Developer agrees to provide security by depositing funds equal to 110% of the estimated cost of constructing or installing the improvements that are to become publicly owned in an escrow account before an administrative permit for any work on the Development is approved. Attachment B provides details on the amount, name and location of the escrow account. That Attachment also provides details on how funds may be released as work proceeds, is inspected, and is found to be complete by the Town. It is understood, however, that at least one-third of the funds deposited shall be retained in escrow and returned only after a certificate of compliance is issued. It is further understood, that interest earned on the escrow account shall be retained in the account to reflect the inflating cost of the improvements and to be used by the Town in case of default.

13. What securities must be provided to guarantee completion of improvement that will remain in private ownership? In accord with WDB 7.1.6.2, the Developer agrees to provide security by providing an irrevocable letter of credit, posting a performance bond, or depositing funds in escrow equal to 10% of the estimated cost of constructing or installing the improvements that are remain in private ownership before an administrative permit for any work on the Development is approved. Attachment C provides details on the amount, name and location of the escrow account. It is understood, however, that the letter of credit, performance bond, or funds placed in escrow will be returned only after a certificate of compliance is issued. It is further understood, that interest earned on an escrow account shall be retained in the account to reflect the inflating cost of the improvements and to be used by the Town in case of default.

17. Must securities for phased developments be provided for the entire development or by phase? Securities for phased developments will be provided by phase.

15. What happens to vested rights if the Town must complete required improvements? They may disappear. As provided by WDB 7.1.2.9, if the Town is required to use a guarantee to complete required improvements, the Town may declare this agreement void, thereby cancelling all vested rights granted by the Town's approval of the discretionary permit and the final plans. In its sole discretion, the Town may instigate a renegotiation of this agreement by informing the Developer of its intention to do so within 180 days after the failure to initiate, implement, or complete a phase as scheduled.

16. May this agreement be re-negotiated? The parties to this development agreement are committed to its provisions. They recognize, however, that changes in regulatory or technical practices could necessitate changes in this development agreement. Neither party is obliged to renegotiate the terms of this development agreement, but if both parties agree to pursue changes, those changes shall be proposed in writing, either as an amendment to this agreement or as an entirely new draft development agreement. All proposed changes must be approved by the Williston Development Review Board and signed by the Town Manager following that approval.

17. Is this agreement binding on successors and assigns? Yes. This development agreement runs with the land to which it applies. It is binding on the Developer and the Developer's successors, heirs, and assigns, and on the Town's and the Town's successors and assigns. If either party learns that an assignment, sale, conveyance, foreclosure, lease, or any other event is likely to change the identity of any party, that party shall provide written notice to the other party within 48 hours of such change, and shall provide the other party with copies of all documents relating to the transfer of interest in the Development.

18. At what address may the Developer be contacted when a formal notice must be given, as required by this agreement? The Developer's address is (full mailing address). This address constitutes the official contact for the Developer until the Developer provides a changed address in writing and that change is acknowledged by the Town. All notices required by this agreement will be sent to this address.

19. Is this agreement governed by the laws of Vermont? Yes, this agreement is governed by Vermont statute and case law.

Dated this ___ day of _____, 200__, at Williston, Vermont.

Town Manager, Town of Williston

Dated this ___ day of _____, 200__, at Williston, Vermont.

Duly-appointed Agent of Developer

BEVS - CONCEPTUAL SITE WORK COST OPINION

Prepared by: Ian A. Jewkes,P.E., Krebs & Lansing Consulting Engineers, Inc.
October 5, 2017

Based on Sketch Plan

Descripton	Quantity	Unit	Unit Cost	Extension	Notes
			(\$)	(\$)	
General Conditions	1	Est	\$14,000.00	\$14,000.00	
Public Road/Parking					
3" Paving	706	tons	\$100.00	\$70,600.00	
Crushed Gravel Subbase	2092	cy	\$22.00	\$46,024.00	
Sand cushion	400	cy	\$12.00	\$4,800.00	
Ground Stabilization Fabric	4185	sy	\$2.50	\$10,462.50	
Underdrain	700	lf	\$18.00	\$12,600.00	
5' Concrete Sidewalk	165	sy	\$56.00	\$9,240.00	
Cut to fill or stockpile	1000	cy	\$12.00	\$12,000.00	
Concrete Curb	400	lf	\$22.00	\$8,800.00	On building side only
Storm					
15" HDPE Pipe	305	lf	\$25.00	\$7,625.00	
Trench Blasting	0	lf	\$55.00	\$0.00	
CBs/Mhs	4	each	\$3,000.00	\$12,000.00	
6" PVC SDR 35 footing drain	300	lf	\$30.00	\$9,000.00	
End Sections	0	each	\$200.00	\$0.00	
Core & Boot Ex. CB	1	each	\$2,000.00	\$2,000.00	
Detention Pond Upgrade	1	lump sum	\$20,000.00	\$20,000.00	
LID Stormwater Infrastructure	1	lump sum	\$20,000.00	\$20,000.00	
Water					
8"CI 52 Ductile Iron pipe	100	lf	\$40.00	\$4,000.00	
Trench Blasting	0	lf	\$55.00	\$0.00	
Tap & Valve	0	each	\$4,500.00	\$0.00	Exg. Stub
Gate Valves	1	each	\$1,500.00	\$1,500.00	
Tees	0	each	\$1,200.00	\$0.00	
Hydrant assembly	0	each	\$3,500.00	\$0.00	
3/4" k copper	0	lf	\$25.00	\$0.00	
Water shutoffs	0	each	\$200.00	\$0.00	
Thrust blocks	1	each	\$200.00	\$200.00	
Sanitary					
6" PVC SDR 35	70	lf	\$40.00	\$2,800.00	Exg. Stub
Trench Blasting	0	lf	\$55.00	\$0.00	
Mhs	1	each	\$3,000.00	\$3,000.00	
4" PVC SDR 35	0	lf	\$30.00	\$0.00	
Electric					
Conduit	200	lf	\$12.00	\$2,400.00	
GMP Installed	1	estimate	\$14,000.00	\$14,000.00	
Gas					
Trench	250	lf	\$12.00	\$3,000.00	
Erosion Control					
Stabilized Construction Entrance	1	lump sum	\$2,000.00	\$2,000.00	
Silt Fence	900	lf	\$2.00	\$1,800.00	
Stone Inlet Protection	4	each	\$45.00	\$180.00	
Stone Check Dams	0	each	\$45.00	\$0.00	
Erosion Control Matting	500	sy	\$3.00	\$1,500.00	
Other					
Clear, grub, and stockpile topsoil	2.2	acre	\$7,500.00	\$16,500.00	
Rough Grading	2.2	acre	\$2,000.00	\$4,400.00	
Final Shaping	1	lump sum	\$2,500.00	\$2,500.00	
Re-use on-site topsoil	1452	cy	\$20.00	\$29,040.00	
Seed, fertilize, lime	78000	sf	\$0.05	\$3,900.00	
			Subtotal	\$351,871.50	
			Contractor Markup (8%)	\$28,149.72	
			TOTAL	\$380,021.22	

NOTES:

1. Conceptual Cost Opinion Does not include permit application fees and impact fees.
2. Conceptual Cost Opinion does not include concrete or excavation for building foundation.
3. Conceptual Cost Opinion Does not include explosive blasting of ledge or pre-blast survey.
4. Conceptual Cost Opinion Does not include landscaping.

STORMWATER NARRATIVE

Burlington Emergency & Veterinary Specialists (BEVS)

Lot 26 Producton Park

1. Introduction

Krebs and Lansing Consulting Engineers Inc. (K&L) are writing on behalf of Burlington Emergency & Veterinary Specialists (BEVS) to apply for a State Stormwater Discharge Permit pursuant to General Permit 3-9015 for a new commercial development located at Lot 26 of Production Park, Marshall Avenue, Williston.

2. Project Description

The proposed BEVS project will be located on a 3.0 acre lot on the west side of Marshall Avenue in Williston. The Applicant proposes a new 17,000+/- square foot commercial building for veterinary services with associated parking and utilities, accessed from Marshall Avenue.

3. Existing Condition

The existing site is bounded by Marshall Avenue to the east, undeveloped land to the north, the FedEx ground facility to the south and commercial development accessed from Shunpike Road to the west. The westerly portion of the property is wooded, and there is a small cluster of trees on the easterly portion of the property. The remainder of the site, and virtually all of the development footprint is located in open meadow

There are two classifications of existing soils on the site. The westerly portion of the site is mapped as Scantic silt loam. The center and easterly portions of the site are mapped as Hinesburg fine sandy loam. Scantic soils are classified as type C/D by the U.S. Soil Conservation Service, indicating a high potential for stormwater runoff, and a low infiltrative capacity. Hinesburg soils are classified as type A soils, indicating a higher infiltrative capacity. On site soil testing indicates that the deeper, well drained soils characterized as "A" soils are actually limited to the northeast corner of the site. The remainder of the site has high seasonal water table and firmer soils more typical of a "C" soil.

The site is virtually flat. There are very flat slopes towards Marshall Avenue on the easterly portion of the site, and towards the west and Muddy Brook on the westerly portion of the site.

4. Existing Stormwater System (remove if not applicable)

There is no existing stormwater infrastructure on the site other than two temporary culverts in the road side swale along Marshall Avenue.

5. Proposed Stormwater System:

The parcel is divided into two subwatersheds. The area draining towards S/N001 is the entire building and the access road and parking area to the south. These impervious surfaces will be treated via Bioretention Area #1. The southerly parking area drains toward S/N002 and will be treated via Gravel Wetland #1. Gravel Wetland #1 has been sized to treat the “future” impervious surface shown to the north as well.

- a) Description of Impervious Area: There is no existing or permitted impervious area on the site. The total amount of impervious proposed is 1.37 acres, all classified as “new”. The new impervious surface is from the building roof, parking areas, sidewalks, utility pads, and a recreation path.
- b) Receiving Body: Unnamed tributary of Muddy Brook
- c) Fish Habitat Designation for Receiving Water: Cold
http://dec.vermont.gov/sites/dec/files/documents/wsmd_water_quality_standards_2016.pdf
- d) Description of compliance with each of the treatment standards in the 2017 VSMM including the treatment practices or waivers used to meet each of the following standards:
 - i) Post-Construction Soil Depth and Quality Standard:

This standard will be met via two options outlined in the VSMM.

Option 1: Areas outside of construction will be left undisturbed and protected from compaction during construction. This option will apply only to the far westerly portion of the site.

Option 3: Remove and stockpile existing topsoil during construction. On site soil testing indicates an existing sandy loam topsoil layer on the site ranging from 7-13 inches in depth. Given that much of the finish site will be covered in building or paving, there will be an excess of existing topsoil to restore other disturbed areas such as setbacks, vegetated islands, swales, and side-slopes. Compost will be incorporated into the existing topsoil stockpile if needed to achieve 4% organic content.
 - ii) Groundwater Recharge Standard:

This standard will be met on a site wide basis via the use of Bioretention Area #1. Bioretention Area #1 will completely infiltrate the water quality storm event. Pre-treatment is provided in a Pre-Treatment Swale
 - iii) Water Quality Treatment Standard (WQ_v):
 - (1) S/N 001: WQ_v will be met for S/N 001 via the use of Bioretention Area #1. Bioretention Area #1 will completely infiltrate the water quality storm event. Pre-treatment is provided in a Pre-Treatment Swale.
 - (2) S/N 002: WQ_v will be met for S/N 002 via the use of Gravel Wetland #1. The stone voids in the gravel wetland will store the entire WQ_v draining to this area. Pre-treatment is provided in a forebay.

BEVS Stormwater Narrative

- iv) Channel Protection Standard (CP_v):
 - (1) S/N 001: CP_v is met for S/N 001 via the Extended Detention Method and Bioretention Area #1. Additional storage is provided above the Bioretention soils, along with a low flow orifice and controlled outlet structure to meet the required 12 hour detention time.
 - (2) S/N 002: CP_v is met for S/N 002 via the Extended Detention Method and Gravel Wetland #1. Additional storage is provided above the wetland gravel and soil, along with a low flow orifice and controlled outlet structure to meet the required 12 hour detention time.

- v) Overbank Flood Protection Standard (Q_{P10}):
 - (1) S/N 001: The Overbank Flood Protection Standard is met using Bioretention Area #1 to limit post development peak flows below predevelopment levels. The predevelopment peak flow for S/N 001 is 0.6 cfs., while the post development peak flow is 0.39 cfs.
 - (2) S/N 002: The Overbank Flood Protection Standard is met using Gravel Wetland#1 to limit post development peak flows below predevelopment levels. The predevelopment peak flow for S/N 001 is 0.4 cfs., while the post development peak flow is 0.31 cfs.

- vi) Extreme Flood Protection Standard (Q_{P100}):
 - (1) This standard is waived for both discharge points because less than 10 acres of impervious surface is being proposed.