



Lamoille Valley Rail Trail – 401 Water Quality Certification Application

Appendix IA. USACE Section 404/10 Permit Application - Impact Summary

March 17, 2021;
Revised May 19, 2021

Lamoille Valley Rail Trail Project – VTrans Project STP
LVRT(11): Cambridge to Sheldon; LVRT(12): Hardwick to Morrisville; LVRT(13): Danville to Hardwick
 Vermont Agency of Transportation
USACE Section 404/10 Permit Application - Impact Summary
 Prepared by VHB
 3/17/2021; REVISED 5/19/2021

Feature ID ^{1,2}	Feature Type	Trail Section	Proposed Work	EPSC Corresponding Sheet	Impact Area Corresponding Sheet	Proposed WOTUS Impacts		TOTAL IMPACTS (Sq. Ft.)
						Permanent Impacts ³ (Sq. Ft.)	Temporary Impacts ⁴ (Sq. Ft.)	
2008-421	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):47	LVRT(11): 2	252	407	659
2008-422	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):47	LVRT(11): 2	83	37	120
2008-423	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):47	LVRT(11): 2	69	389	458
2008-424	Wetland	LVRT(11)	REPAIR INLET AND OUTLET	LVRT(11):48	LVRT(11): 3	0	1,161	1,161
2008-425	Wetland	LVRT(11)	REPAIR INLET AND OUTLET	LVRT(11):48	LVRT(11): 3	133	2,057	2,190
2008-426	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):48,49	LVRT(11):	367	1,417	1,784
2008-430	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):49	LVRT(11): 4	54	563	617
2008-431	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):49	LVRT(11): 4	0	372	372
2008-432	Wetland	LVRT(11)	CLEAN AND REGRADE INLET, INSTALL BEAVER FENCE	LVRT(11):49	LVRT(11): 4	340	1,014	1,354
2008-435	Wetland	LVRT(11)	REPAIR AND REGRADE INLET, INSTALL BEAVER FENCE	LVRT(11):50	LVRT(11): 5	122	749	871
2008-438	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):51	LVRT(11): 6	133	582	715
2008-439	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):51,53,54	LVRT(11): 6,8,9	961	3,413	4,374
2008-440	Wetland	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS, REPOINT ABUTMENTS AND WINGWALLS	LVRT(11):35,53,54	LVRT(11): 8,9	375	2,011	2,386
2008-441	Wetland	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS, REPOINT ABUTMENTS AND WINGWALLS	LVRT(11):35,54	LVRT(11): 9	0	266	266
2008-442	Wetland	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS, REPLACE BRIDGE SEATS AND BACKWALLS, REPOINT ABUTMENTS	LVRT(11):36,55	LVRT(11): 10	0	146	146
2008-443	Wetland	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS, REPLACE BRIDGE SEATS AND BACKWALLS, REPOINT ABUTMENTS	LVRT(11):36,55	LVRT(11): 10	0	86	86
2008-444	Wetland	LVRT(11)	CLEAN INLET/OUTLET, REPAIR BANKING, INSTALL BEAVER FENCE	LVRT(11):55	LVRT(11): 10	178	579	757
2008-445	Wetland	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS	LVRT(11):37,55	LVRT(11): 10	204	786	990
2008-446	Wetland	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS	LVRT(11):37,55	LVRT(11): 10	0	375	375
2008-447	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):56	LVRT(11): 11	330	1,083	1,413
2008-449	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):56	LVRT(11): 11	297	1,000	1,297
2008-450	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):56	LVRT(11): 11	190	873	1,063
2008-451	Wetland	LVRT(11)	CLEAN INLET, EXCAVATE AND REPAIR	LVRT(11):57	LVRT(11): 12	0	788	788
2008-452	Wetland	LVRT(11)	CLEAN INLET, EXCAVATE AND REPAIR	LVRT(11):57,58	LVRT(11): 12,13	233	2,500	2,733
2008-453	Wetland	LVRT(11)	EXCAVATE AND REPLACE, REPAIR BANKING	LVRT(11):58	LVRT(11): 13	161	541	702
2008-456	Wetland	LVRT(11)	CLEAN AND REPAIR INLET, INSTALL BEAVER FENCE	LVRT(11):58	LVRT(11): 13	0	514	514
2008-457	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):59	LVRT(11): 14	276	637	913
2008-458	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):59	LVRT(11): 14	235	941	1,176
2008-459	Wetland	LVRT(11)	CLEAN INLET AND OUTLET, REPAIR INLET AND OUTLET	LVRT(11):59	LVRT(11): 14	0	1,554	1,554
2008-460	Wetland	LVRT(11)	CLEAN INLET AND OUTLET, REPAIR INLET AND OUTLET	LVRT(11):59	LVRT(11): 14	0	1,143	1,143
2008-464	Wetland	LVRT(11)	CLEAN INLET AND OUTLET, REPAIR OUTLET, REPAIR BANKING	LVRT(11):60,61	LVRT(13): 15,16	206	513	719
2008-467	Wetland	LVRT(11)	REPLACE CULVERT, REPAIR BANKING, REGRADE AROUND OUTLET	LVRT(11):61	LVRT(11): 16	46	53	99
2008-468	Wetland	LVRT(11)	EXCAVATE AND REPAIR	LVRT(11):61	LVRT(11): 16	0	666	666
2008-469	Wetland	LVRT(11)	EXCAVATE AND REPLACE, REPAIR BANKING	LVRT(11):62	LVRT(11): 17	304	790	1,094
2008-476	Wetland	LVRT(11)	EXCAVATE AND REPLACE, REPAIR BANKING	LVRT(11):62	LVRT(11): 17	94	543	637
2008-477	Wetland	LVRT(11)	EXCAVATE AND REPAIR	LVRT(11):63	LVRT(11): 18	0	363	363
2008-480	Wetland	LVRT(11)	EXCAVATE AND REPLACE, INSTALL BEAVER FENCE	LVRT(11):64	LVRT(11): 19	296	427	723
2008-481	Wetland	LVRT(11)	EXCAVATE AND REPLACE, INSTALL BEAVER FENCE	LVRT(11):64	LVRT(11): 19	676	1,554	2,230
2008-485	Wetland	LVRT(11)	CLEAN INLET, REGRADE INLET AND OUTLET, REPAIR BANKING	LVRT(11):66	LVRT(11): 21	0	194	194

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						Permanent Impacts ³ (Sq. Ft.)	Temporary Impacts ⁴ (Sq. Ft.)	
2008-486	Wetland	LVRT(11)	CLEAN OUTLET, REGRADE AROUND INLET, REPAIR BANKING	LVRT(11):66	LVRT(11): 21	13	354	367
2008-488	Wetland	LVRT(11)	EXCAVATE AND REPLACE, REGRADE INLET AND OUTLET	LVRT(11):66	LVRT(11): 21	174	560	734
2008-489	Wetland	LVRT(11)	REPLACE CULVERT, REPAIR BANKING	LVRT(11):67	LVRT(11): 22	338	229	567
2008-491	Wetland	LVRT(11)	CLEAN AND REPAIR INLET, INSTALL BEAVER FENCE	LVRT(11):68	LVRT(11): 23	0	459	459
2008-492	Wetland	LVRT(11)	REGRADE AROUND OUTLET, REPAIR BANKING	LVRT(11):68	LVRT(11): 23	0	89	89
2008-493	Wetland	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS, REPLACE BRIDGE SEATS AND BACKWALLS, RESET STONE MASONRY WINGWALLS, REPOINT ABUTMENTS AND WINGWALLS	LVRT(11):42,68	LVRT(11): 23	0	71	71
2008-497	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):70	LVRT(11): 25	276	554	830
2008-503	Wetland	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS	LVRT(11):43,73	LVRT(11): 28	191	1,070	1,261
2008-506	Wetland	LVRT(11)	REPLACE CULVERT	LVRT(11):75	LVRT(11): 30	73	695	768
2008-507	Wetland	LVRT(11)	REPLACE CULVERT	LVRT(11):75	LVRT(11): 30	0	5	5
2008-508	Wetland	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS	LVRT(11):44,75	LVRT(11): 30	0	0	0
2008-510	Wetland	LVRT(11)	INSTALL NEW CULVERT, RESTORE EMBANKMENT OVER CULVERT	LVRT(11):76	LVRT(11): 31	391	676	1,067
2008-511	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):76	LVRT(11): 31	82	719	801
2008-512	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):76	LVRT(11): 31	0	341	341
2008-513	Wetland	LVRT(11)	REPLACE CULVERT, REPAIR BANKING, REGRADE AROUND INLET	LVRT(11):77	LVRT(11): 32	333	1,041	1,374
2008-515	Wetland	LVRT(11)	REPAIR INLET, REPAIR BANKING	LVRT(11):77,78	LVRT(11):	120	697	817
2008-516	Wetland	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):78	LVRT(11): 33	0	355	355
2008-518	Wetland	LVRT(11)	CLEAN INLET, REPAIR OUTLET AND BANKING	LVRT(11):79	LVRT(11): 34	160	144	304
2008-520	Wetland	LVRT(11)	INSTALL GUARDRAILS, RESET STONE MASONRY HEADWALLS, RESET COLLAPSED STONE MASONRY WINGWALL, REPOINT STONE ARCH AND WINGWALLS	LVRT(11):45,80	LVRT(11): 35	0	429	429
2008-523	Wetland	LVRT(11)	CLEAN INLET, REPAIR INLET AND OUTLET, REPAIR BANKING	LVRT(11):81	LVRT(11): 36	64	588	652
2008-524	Wetland	LVRT(11)	CLEAN INLET, REPAIR INLET AND OUTLET, REPAIR BANKING	LVRT(11):82	LVRT(11): 37	253	339	592
2008-526	Wetland	LVRT(11)	REPLACE CULVERT	LVRT(11):82,83	LVRT(13): 37,38	282	430	712
2008-527	Wetland	LVRT(11)	EXCAVATE AND REPAIR	LVRT(11):83	LVRT(11): 38	0	774	774
2008-528	Wetland	LVRT(11)	EXCAVATE AND REPAIR	LVRT(11):83	LVRT(11): 38	0	169	169
2020-10	Wetland	LVRT(11)	REPLACE CULVERT	LVRT(11):81,82	LVRT(13): 36,37	0	47	47
2020-12	Wetland	LVRT(11)	REPAIR INLET, REPAIR BANKING	LVRT(11):77,78	LVRT(13): 32,33	61	182	243
2020-14	Wetland	LVRT(11)	REPLACE CULVERT, REPAIR BANKING, REGRADE AROUND INLET	LVRT(11):77	LVRT(11): 32	9	513	522
2020-4	Wetland	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS, REPLACE BRIDGE SEATS AND BACKWALLS, RESET STONE MASONRY WINGWALLS, REPOINT ABUTMENTS AND WINGWALLS	LVRT(11):42,68	LVRT(11): 23	0	4,432	4,432
2020-6	Wetland	LVRT(11)	INSTALL NEW CULVERT, RESTORE EMBANKMENT OVER CULVERT	LVRT(11):76	LVRT(11): 31	527	1,110	1,637
2008-SC263	Water	LVRT(11)	EXCAVATE AND REPLACE	LVRT(11):47	LVRT(11): 2	173	45	218
2008-SC267	Water	LVRT(11)	CLEAN INLET AND OUTLET, REPAIR INLET	LVRT(11):50	LVRT(11): 5	0	37	37
2008-SC278	Water	LVRT(11)	EXCAVATE AND REPAIR	LVRT(11):63	LVRT(11): 18	0	214	214
2008-SC280	Water	LVRT(11)	CLEAN INLET, REGRADE INLET AND OUTLET, REPAIR BANKING	LVRT(11):66	LVRT(11): 21	175	32	207
2008-SC281	Water	LVRT(11)	CLEAN INLET AND OUTLET, REPAIR INLET AND OUTLET	LVRT(11):66	LVRT(11): 21	0	135	135
2008-SC282	Water	LVRT(11)	CLEAN OUTLET, REGRADE AROUND INLET, REPAIR BANKING	LVRT(11):66	LVRT(11): 21	86	0	86
2008-SC284	Water	LVRT(11)	EXCAVATE AND REPLACE, REGRADE INLET AND OUTLET	LVRT(11):66	LVRT(11): 21	96	9	105
2008-SC288	Water	LVRT(11)	STABILIZE OUTLET	LVRT(11):68	LVRT(11): 23	142	44	186
2008-SC290	Water	LVRT(11)	CLEAN INLET, REPAIR INLET AND OUTLET, REPAIR BANKING	LVRT(11):69	LVRT(11): 24	208	14	222
2008-SC298	Water	LVRT(11)	CLEAN INLET AND OUTLET, REGRADE AROUND INLET AND OUTLET	LVRT(11):78	LVRT(11): 33	8	15	23
2008-SC299	Water	LVRT(11)	CLEAN INLET AND OUTLET, REGRADE AROUND INLET AND OUTLET	LVRT(11):78	LVRT(11): 33	251	22	273
2008-SC300	Water	LVRT(11)	CLEAN INLET, REPAIR OUTLET AND BANKING	LVRT(11):79	LVRT(11): 34	304	0	304
2008-SC302	Water	LVRT(11)	CLEAN INLET AND OUTLET, REPAIR OUTLET	LVRT(11):79	LVRT(11): 34	0	108	108
2008-TB269	Water	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS, REPOINT ABUTMENTS AND WINGWALLS	LVRT(11):54,35	LVRT(11): 9	0	1,461	1,461

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						Permanent Impacts ³ (Sq. Ft.)	Temporary Impacts ⁴ (Sq. Ft.)	
2008-TB270	Water	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS, REPLACE BRIDGE SEATS AND BACKWALLS, REPOINT ABUTMENTS	LVRT(11):55,36	LVRT(11): 10	0	1,509	1,509
2008-TB271	Water	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS	LVRT(11):55,37	LVRT(11): 10	0	2,241	2,241
2008-TB273	Water	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS	LVRT(11):60,38	LVRT(11): 15	0	775	775
2008-TB275	Water	LVRT(11)	REPLACE CULVERT, REPAIR BANKING, REGRADE AROUND OUTLET	LVRT(11):61	LVRT(11): 16	184	96	280
2008-TB279	Water	LVRT(11)	INSTALL GUARDRAILS, STABILIZE SIDE SLOPES WITH STONE FILL, TYPE I	LVRT(11):65,40	LVRT(11): 20	2	1,326	1,328
2008-TB285	Water	LVRT(11)	INSTALL GUARDRAILS, RESET STONE MASONRY HEADWALLS, REPOINT STONE ARCH AND WINGWALLS	LVRT(11):66,41	LVRT(11): 21	0	1,913	1,913
2008-TB289	Water	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS, REPLACE BRIDGE SEATS AND BACKWALLS, RESET STONE MASONRY WINGWALLS, REPOINT ABUTMENTS AND WINGWALLS	LVRT(11):68,42	LVRT(11): 23	0	1,075	1,075
2008-TB295	Water	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS	LVRT(11):73,43	LVRT(11): 28	0	2,072	2,072
2008-TB297	Water	LVRT(11)	REPLACE DECK, INSTALL CURB, INSTALL BRIDGE AND APPROACH RAILS	LVRT(11):75,44,76	LVRT(11): 30	0	4,425	4,425
2008-TB303	Water	LVRT(11)	INSTALL GUARDRAILS, RESET STONE MASONRY HEADWALLS, RESET COLLAPSED STONE MASONRY WINGWALL, REPOINT STONE ARCH AND WINGWALLS	LVRT(11):80,45	LVRT(11): 35	0	1,852	1,852
2020-SC-3	Water	LVRT(11)	CLEAN INLET/OUTLET, REPAIR BANKING, INSTALL BEAVER FENCE	LVRT(11):55	LVRT(11): 10	44	0	44
LVRT(11) Wetland Impact Subtotals (sq. ft.):						9,962	50,159	60,121
LVRT(11) Wetland Impact Subtotals (acres):						0.229	1.151	1.380
LVRT(11) Water Impact Subtotals (sq. ft.):						1,673	19,420	21,093
LVRT(11) Water Impact Subtotals (acres):						0.038	0.446	0.484
LVRT(11) Impact Type Subtotals (sq. ft.):						11,635	69,579	81,214
LVRT(11) Impact Type Subtotals (acres):						0.267	1.597	1.864
2008-219	Wetland	LVRT(12)	#N/A	LVRT(12):63,78	LVRT(12): 2	0	0	0
2008-220	Wetland	LVRT(12)	RESTORE GRADE AT INLET & OUTLET, RESET EXIST. CULVERT	LVRT(12):78	LVRT(12): 2	107	244	351
2008-221	Wetland	LVRT(12)	REPAIR EAST ABUTMENT, REPLACE/RAISE DECK, INSTALL GUARDRAILS	LVRT(12):64,78	LVRT(12): 2	0	115	115
2008-226	Wetland	LVRT(12)	EXCAVATE AND REPLACE	LVRT(12):79	LVRT(12): 3	92	565	657
2008-227	Wetland	LVRT(12)	EXCAVATE AND REPLACE	LVRT(12):79	LVRT(12): 3	72	47	119
2008-228	Wetland	LVRT(12)	Washout STABILIZATION	LVRT(12):79	LVRT(12): 3	1,278	0	1,278
2008-229	Wetland	LVRT(12)	STABILIZATION	LVRT(12):79	LVRT(12): 3	885	0	885
2008-234	Wetland	LVRT(12)	EXCAVATE AND REPLACE	LVRT(12):80	LVRT(12): 4	3	223	226
2008-235	Wetland	LVRT(12)	STABILIZATION	LVRT(12):80	LVRT(12): 4	580	427	1,007
2008-237	Wetland	LVRT(12)	EXCAVATE AND REPLACE	LVRT(12):81	LVRT(12): 5	168	428	596
2008-238	Wetland	LVRT(12)	EXCAVATE AND REPLACE	LVRT(12):81	LVRT(12): 5	155	826	981
2008-240	Wetland	LVRT(12)	INSTALL GUARDRAILS, REPAIR FASCIA	LVRT(12):65,82	LVRT(12): 6	0	5	5
2008-241	Wetland	LVRT(12)	EXCAVATE AND REPLACE, REPAIR BANKING	LVRT(12):82	LVRT(12): 6	148	262	410
2008-242	Wetland	LVRT(12)	EXCAVATE AND REPLACE, REPAIR BANKING	LVRT(12):82	LVRT(12): 6	73	624	697
2008-244	Wetland	LVRT(12)	INSTALL NEW CULVERT	LVRT(12):82	LVRT(12): 6	12	557	569
2008-246	Wetland	LVRT(12)	REPLACE DECK, REMOVE AND RESET ABUTMENT STONES, INSTALL GUARDRAILS	LVRT(12):66,83	LVRT(12): 7	0	309	309
2008-247	Wetland	LVRT(12)	REPLACE DECK, CONSTRUCT NEW CONCRETE ABUTMENTS, INSTALL GUARDRAILS	LVRT(12):67,84	LVRT(12): 8	0	764	764
2008-248	Wetland	LVRT(12)	REPAIR INLET, REPAIR BANKING	LVRT(12):84	LVRT(12): 8	289	881	1,170
2008-249a	Wetland	LVRT(12)	REPAIR INLET, REPAIR BANKING	LVRT(12):84	LVRT(12): 8	152	423	575
2008-251	Wetland	LVRT(12)	EXCAVATE AND REPLACE, REPAIR BANKING	LVRT(12):84,85	LVRT(13): 8,9	276	829	1,105
2008-252	Wetland	LVRT(12)	EXCAVATE AND REPLACE, REPAIR BANKING	LVRT(12):84,85	LVRT(13): 8,9	314	455	769
2008-255	Wetland	LVRT(12)	REPAIR SIDING, REPLACE DECK, REPAIR ABUTMENTS, WIDEN APPROACH	LVRT(12):68,85,86	LVRT(13): 9,10	0	140	140
2008-257	Wetland	LVRT(12)	EXCAVATE AND REPLACE, INSTALL BEAVER FENCE AT INLET	LVRT(12):87	LVRT(12): 11	236	629	865
2008-258	Wetland	LVRT(12)	REGRADE AROUND INLET	LVRT(12):87	LVRT(12): 11	31	234	265
2008-262	Wetland	LVRT(12)	CLEAN OUTLET, EXCAVATE AND REPLACE	LVRT(12):89	LVRT(12): 13	203	686	889
2008-263	Wetland	LVRT(12)	CLEAN OUTLET, EXCAVATE AND REPLACE	LVRT(12):89	LVRT(12): 13	0	1	1

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2008-264	Wetland	LVRT(12)	CLEAN INLET AND OUTLET, EXCAVATE AND REPLACE	LVRT(12):90	LVRT(12): 14	53	234	287
2008-265	Wetland	LVRT(12)	CLEAN INLET AND OUTLET, EXCAVATE AND REPLACE	LVRT(12):90	LVRT(12): 14	5	106	111
2008-273	Wetland	LVRT(12)	EXCAVATE AND REPAIR CULVERT	LVRT(12):91	LVRT(12): 15	0	915	915
2008-274	Wetland	LVRT(12)	EXCAVATE AND REPAIR CULVERT	LVRT(12):91	LVRT(12): 15	0	977	977
2008-285	Wetland	LVRT(12)	EXCAVATE AND REPLACE	LVRT(12):95,96	LVRT(13): 19,20	386	984	1,370
2008-289	Wetland	LVRT(12)	EXCAVATE AND REPLACE, REPAIR BANKING	LVRT(12):96	LVRT(12): 20	101	233	334
2008-291	Wetland	LVRT(12)	REPAIR CULVERT	LVRT(12):96,97	LVRT(13): 21,20	88	701	789
2008-294	Wetland	LVRT(12)	CLEAN OUTLET, REPAIR INLET AND BANKING	LVRT(12):97,98	LVRT(12): 21,22	759	1,474	2,233
2008-296	Wetland	LVRT(12)	CLEAN AND REPAIR INLET AND OUTLET	LVRT(12):98	LVRT(12): 22	0	658	658
2008-297	Wetland	LVRT(12)	CLEAN AND REPAIR INLET AND OUTLET	LVRT(12):98	LVRT(12): 22	0	967	967
2008-299	Wetland	LVRT(12)	REPAIR OUTLET AND BANKING	LVRT(12):98	LVRT(12): 22	321	621	942
2008-300	Wetland	LVRT(12)	REPAIR OUTLET AND BANKING	LVRT(12):98	LVRT(12): 22	192	746	938
2008-302	Wetland	LVRT(12)	CLEAN INLET AND OUTLET, REPAIR OUTLET	LVRT(12):99	LVRT(12): 23	0	865	865
2008-303	Wetland	LVRT(12)	CLEAN INLET AND OUTLET, REGRADE AROUND OUTLET	LVRT(12):99,100	LVRT(12):	349	1,147	1,496
2008-304	Wetland	LVRT(12)	REGRADE AND STABILIZE INLET AND OUTLET, REPLACE CULVERT	LVRT(12):100	LVRT(12): 24	103	701	804
2008-306	Wetland	LVRT(12)	EXCAVATE AND REPAIR CULVERT, REPAIR BANKING	LVRT(12):101	LVRT(12): 25	25	48	73
2008-308	Wetland	LVRT(12)	REPLACE CULVERT	LVRT(12):101	LVRT(12): 25	81	33	114
2008-310	Wetland	LVRT(12)	CLEAN INLET AND OUTLET, REPAIR BANKING	LVRT(12):102	LVRT(12): 26	168	838	1,006
2020/2008-295	Wetland	LVRT(12)	CLEAN OUTLET, REPAIR INLET AND BANKING	LVRT(12):97	LVRT(12): 21	558	1,731	2,289
2020-15	Wetland	LVRT(12)	STABILIZATION	LVRT(12):80	LVRT(12): 4	152	0	152
2020-16	Wetland	LVRT(12)	STABILIZATION	LVRT(12):80	LVRT(12): 4	809	0	809
2008/2019-SC141	Water	LVRT(12)	RESTORE GRADE AT INLET & OUTLET, RESET EXIST. CULVERT	LVRT(12):78	LVRT(12): 2	3	0	3
2008/2019-TB140	Water	LVRT(12)	RESTORE GRADE AT INLET & OUTLET, RESET EXIST. CULVERT	LVRT(12):78,63	LVRT(12): 2	22	48	70
2008/2019-TB141	Water	LVRT(12)	STABILIZATION	LVRT(12):78	LVRT(12): 2	272	6	278
2008-SC142	Water	LVRT(12)	EXCAVATE AND REPLACE	LVRT(12):79	LVRT(12): 3	51	0	51
2008-SC143	Water	LVRT(12)	INSTALL NEW CULVERT, DITCH FROM 1919+50 LEFT TO CULVERT	LVRT(12):80	LVRT(12): 4	1	0	1
2008-SC147	Water	LVRT(12)	EXCAVATE AND REPLACE, CLEAN INLET AND OUTLET	LVRT(12):80,81	LVRT(13): 4	136	45	181
2008-SC155	Water	LVRT(12)	CLEAN OUTLET, REPAIR BANKING	LVRT(12):85	LVRT(12): 9	122	33	155
2008-SC156	Water	LVRT(12)	CLEAN INLET, REPAIR OUTLET	LVRT(12):86	LVRT(12): 10	0	21	21
2008-SC159	Water	LVRT(12)	REGRADE AROUND INLET	LVRT(12):87	LVRT(12): 11	16	0	16
2008-SC164	Water	LVRT(12)	REGRADE AROUND INLET	LVRT(12):88	LVRT(12): 12	118	18	136
2008-SC167	Water	LVRT(12)	EXCAVATE AND REPAIR CULVERT	LVRT(12):91	LVRT(12): 15	0	56	56
2008-SC175	Water	LVRT(12)	CLEAN OUTLET, REPAIR INLET AND BANKING	LVRT(12):97	LVRT(12): 21	70	0	70
2008-SC180	Water	LVRT(12)	CLEAN INLET AND OUTLET, REGRADE AROUND OUTLET	LVRT(12):100	LVRT(12): 24	50	0	50
2008-SC181	Water	LVRT(12)	CLEAN INLET AND OUTLET, REPAIR OUTLET	LVRT(12):100	LVRT(12): 24	0	53	53
2008-SC182	Water	LVRT(12)	EXCAVATE AND REPAIR INLET AND OUTLET, REPAIR BANKING	LVRT(12):100	LVRT(12): 24	166	31	197
2008-SC183	Water	LVRT(12)	REPLACE CULVERT, REGRADE AROUND INLET AND OUTLET	LVRT(12):100,101	LVRT(13): 24	201	65	266
2008-SC184	Water	LVRT(12)	EXCAVATE AND REPAIR CULVERT, REPAIR BANKING	LVRT(12):101	LVRT(12): 25	312	32	344
2008-SC186	Water	LVRT(12)	REPLACE CULVERT AND REPAIR BANKING	LVRT(12):101	LVRT(12): 25	145	35	180
2008-SC191	Water	LVRT(12)	CLEAN INLET AND OUTLET, REPAIR BANKING	LVRT(12):102	LVRT(12): 26	139	28	167
2008-TB145	Water	LVRT(12)	RESET HEADWALL, REPAIR BANKING	LVRT(12):80	LVRT(12): 4	290	225	515
2008-TB148	Water	LVRT(12)	EXCAVATE AND REPLACE, REPAIR BANKING	LVRT(12):81	LVRT(12): 5	254	72	326
2008-TB149	Water	LVRT(12)	INSTALL GUARDRAILS, REPAIR FASCIA	LVRT(12):82,65	LVRT(12): 6	0	968	968
2008-TB151	Water	LVRT(12)	REPLACE DECK, REMOVE AND RESET ABUTMENT STONES, INSTALL GUARDRAILS	LVRT(12):83,66	LVRT(12): 7	0	453	453
2008-TB153	Water	LVRT(12)	REPLACE DECK, CONSTRUCT NEW CONCRETE ABUTMENTS, INSTALL GUARDRAILS	LVRT(12):84,67	LVRT(12): 8	0	1,134	1,134
2008-TB156	Water	LVRT(12)	CLEAN INLET, REPAIR OUTLET	LVRT(12):86	LVRT(12): 10	0	82	82
2008-TB157	Water	LVRT(12)	REPLACE DECK, REMOVE AND RESET GIRDERS, REPAIR ABUTMENTS, INSTALL GUARDRAILS	LVRT(12):87,69	LVRT(12): 11	0	1,373	1,373
2008-TB168	Water	LVRT(12)	REPLACE CULVERT	LVRT(12):91,92	LVRT(12): 15	251	95	346
2008-TB169	Water	LVRT(12)	ERECT PREFABRICATED MULTI-MODAL BRIDGE, CONSTRUCT NEW CONCRETE ABUTMENTS	LVRT(12):93,71	LVRT(12): 17	0	13,086	13,086
2008-TB176	Water	LVRT(12)	REPLACE DECK, REPOINT ABUTMENTS	LVRT(12):98,74	LVRT(12): 22	0	1,822	1,822
2008-TB179	Water	LVRT(12)	REPLACE CULVERT	LVRT(12):99,75	LVRT(12): 23	468	105	573

Feature ID ^{1,2}	Feature Type	Trail Section	Proposed Work	EPSC Corresponding Sheet	Impact Area Corresponding Sheet	Proposed WOTUS Impacts		TOTAL IMPACTS (Sq. Ft.)
						Permanent Impacts ³ (Sq. Ft.)	Temporary Impacts ⁴ (Sq. Ft.)	
2008-TB184	Water	LVRT(12)	EXCAVATE AND REPAIR CULVERT, REPAIR BANKING	LVRT(12):101	LVRT(12): 25	29	30	59
2008-TB187	Water	LVRT(12)	REPAIR OUTLET	LVRT(12):101	LVRT(12): 25	0	66	66
2008-TB192	Water	LVRT(12)	INSTALL GUARDRAILS, REPOINT ABUTMENTS	LVRT(12):102,76	LVRT(12): 26	0	524	524
2008-TBLM	Water	LVRT(12)	STABILIZATION	LVRT(12):80,87,92,89,70,86,68,96,73,78,64,9	LVRT(12): 4,10,11,13,16,20,2	300	24,050	24,350
2019-SC140	Water	LVRT(12)	#N/A	LVRT(12):78,63	LVRT(12): 2	0	0	0
2020-SC-104	Water	LVRT(12)	REPLACE CULVERT	LVRT(12):94,72	LVRT(12): 18	153	78	231
LVRT(12) Wetland Impact Subtotals (sq. ft.):						9,224	23,653	32,877
LVRT(12) Wetland Impact Subtotals (acres):						0.212	0.543	0.755
LVRT(12) Water Impact Subtotals (sq. ft.):						3,569	44,634	48,203
LVRT(12) Water Impact Subtotals (acres):						0.082	1.025	1.107
LVRT(12) Impact Type Subtotals (sq. ft.):						12,793	68,287	81,080
LVRT(12) Impact Type Subtotals (acres):						0.294	1.568	1.861
2008-111	Wetland	LVRT(13)	REPLACE DECK, INSTALL BRIDGE AND APPROACH RAILS	LVRT(13):31,33	LVRT(13): 1	0	19	19
2008-111a	Wetland	LVRT(13)	REPLACE DECK, INSTALL BRIDGE AND APPROACH RAILS	LVRT(13):31,33	LVRT(13): 1	0	25	25
2008-116	Wetland	LVRT(13)	CLEAN INLET AND OUTLET, EXCAVATE AND REPLACE	LVRT(13):34	LVRT(13): 2	25	49	74
2008-127	Wetland	LVRT(13)	CLEAN INLET AND OUTLET, EXCAVATE AND REPLACE	LVRT(13):35,36	LVRT(13): 4,3	28	569	597
2008-128	Wetland	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):36	LVRT(13): 4	224	558	782
2008-129	Wetland	LVRT(13)	CLEAN INLET AND OUTLET, REPAIR INLET AND OUTLET	LVRT(13):36	LVRT(13): 4	0	78	78
2008-131	Wetland	LVRT(13)	CLEAN INLET AND OUTLET, REPAIR INLET AND OUTLET	LVRT(13):36	LVRT(13): 4	0	436	436
2008-148	Wetland	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):42	LVRT(13): 10	75	502	577
2008-151	Wetland	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):44	LVRT(13): 12	48	24	72
2008-152	Wetland	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):44	LVRT(13): 12	0	2	2
2008-156	Wetland	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):47	LVRT(13): 15	0	19	19
2008-161	Wetland	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):48	LVRT(13): 16	134	171	305
2008-162	Wetland	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):48	LVRT(13): 16	126	777	903
2008-170	Wetland	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):50	LVRT(13): 18	94	273	367
2008-182	Wetland	LVRT(13)	REPAIR BANKING AT OUTLET	LVRT(13):56	LVRT(13): 24	368	698	1,066
2008-192	Wetland	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):59,60	LVRT(13): 27,28	155	181	336
2008-197	Wetland	LVRT(13)	REPLACE CULVERT	LVRT(13):60	LVRT(13): 28	206	264	470
2008-199	Wetland	LVRT(13)	REPLACE CULVERT	LVRT(13):60	LVRT(13): 28	192	634	826
2008-208	Wetland	LVRT(13)	STABILIZATION	LVRT(13):66	LVRT(13): 34	717	2,746	3,463
2008-209	Wetland	LVRT(13)	EXCAVATE AND REPLACE, REPAIR BANKING AT OUTLET	LVRT(13):66	LVRT(13): 34	206	902	1,108
2008-215	Wetland	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):69	LVRT(13): 37	377	591	968
2020/2008-212	Wetland	LVRT(13)	CLEAN OUTLET, REGRADE AROUND INLET	LVRT(13):68	LVRT(13): 36	64	627	691
2008/2020-SC120	Water	LVRT(13)	REPLACE CULVERT	LVRT(13):60	LVRT(13): 28	274	0	274
2008-SC071	Water	LVRT(13)	CLEAN INLET AND OUTLET, EXCAVATE AND REPLACE	LVRT(13):35,36	LVRT(13): 3	106	29	135
2008-SC072	Water	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):36	LVRT(13): 4	51	0	51
2008-SC073	Water	LVRT(13)	CLEAN INLET AND OUTLET, REPAIR INLET AND OUTLET	LVRT(13):36	LVRT(13): 4	0	186	186
2008-SC081	Water	LVRT(13)	REPAIR OUTLET	LVRT(13):41	LVRT(13): 9	0	74	74
2008-SC084	Water	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):42	LVRT(13): 10	115	24	139
2008-SC085	Water	LVRT(13)	CLEAN INLET AND OUTLET, REPAIR OUTLET	LVRT(13):42	LVRT(13): 10	0	32	32
2008-SC087	Water	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):44	LVRT(13): 12	133	19	152
2008-SC089	Water	LVRT(13)	REPAIR INLET AND OUTLET, REPAIR BANKING	LVRT(13):45	LVRT(13): 13	200	30	230
2008-SC092	Water	LVRT(13)	CLEAN INLET, REPAIR OUTLET AND BANKING	LVRT(13):45,46	LVRT(13): 13	130	58	188
2008-SC100	Water	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):50	LVRT(13): 18	134	13	147
2008-SC105	Water	LVRT(13)	CONSTRUCT STONE ARMOR AT OUTLET	LVRT(13):52	LVRT(13): 20	3	0	3
2008-SC119	Water	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):60	LVRT(13): 28	135	30	165
2008-SC122	Water	LVRT(13)	EXCAVATE AND REPAIR	LVRT(13):63	LVRT(13): 31	0	67	67
2008-SC129	Water	LVRT(13)	EXCAVATE AND REPLACE, REPAIR BANKING AT OUTLET	LVRT(13):66	LVRT(13): 34	114	0	114
2008-SC131	Water	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):66	LVRT(13): 34	190	32	222
2008-SC132	Water	LVRT(13)	REPAIR BANKING, CLEAN CULVERT	LVRT(13):67	LVRT(13): 35	182	18	200

Feature ID ^{1,2}	Feature Type	Trail Section	Proposed Work	EPSC Corresponding Sheet	Impact Area Corresponding Sheet	Proposed WOTUS Impacts		TOTAL IMPACTS (Sq. Ft.)
						Permanent Impacts ³ (Sq. Ft.)	Temporary Impacts ⁴ (Sq. Ft.)	
2008-SC134	Water	LVRT(13)	INSTALL CULVERT	LVRT(13):67	LVRT(13): 35	56	27	83
2008-SC135	Water	LVRT(13)	CLEAN INLET, REGRADE AROUND OUTLET	LVRT(13):67	LVRT(13): 35	57	14	71
2008-TB068	Water	LVRT(13)	REPLACE DECK, INSTALL BRIDGE AND APPROACH RAILS	LVRT(13):33,31	LVRT(13): 1	0	975	975
2008-TB076	Water	LVRT(13)	REPAIR AND REGRADE OUTLET	LVRT(13):39	LVRT(13): 7	112	65	177
2008-TB082	Water	LVRT(13)	CLEAN INLET, REPAIR OUTLET	LVRT(13):41,42	LVRT(13): 9	0	94	94
2008-TB092	Water	LVRT(13)	CLEAN INLET, REPAIR OUTLET AND BANKING	LVRT(13):45,46	LVRT(13): 13	23	57	80
2008-TB100	Water	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):50	LVRT(13): 18	69	30	99
2008-TB101	Water	LVRT(13)	CLEAN INLET, REGRADE OUTLET	LVRT(13):50	LVRT(13): 18	120	0	120
2008-TB102	Water	LVRT(13)	CLEAN AND REGRADE AROUND INLET	LVRT(13):51	LVRT(13): 19	546	271	817
2008-TB104	Water	LVRT(13)	CLEAN INLET, REPAIR OUTLET AND BANKING	LVRT(13):52	LVRT(13): 20	202	0	202
2008-TB110	Water	LVRT(13)	REPAIR OUTLET	LVRT(13):54	LVRT(13): 22	0	339	339
2008-TB116	Water	LVRT(13)	REPLACE DECK, INSTALL BRIDGE AND APPROACH RAILS, FILL VOIDS AND RE-POINT SUBSTRUCTURE	LVRT(13):59,32	LVRT(13): 27	0	2,569	2,569
2008-TB117	Water	LVRT(13)	EXCAVATE AND REPLACE	LVRT(13):59,60	LVRT(13): 27	279	731	1,010
2008-TB123	Water	LVRT(13)	EXCAVATE AND REPAIR	LVRT(13):63	LVRT(13): 31	0	391	391
2008-TB124	Water	LVRT(13)	CONSTRUCT STONE ARMOR AT OUTLET	LVRT(13):63	LVRT(13): 31	92	0	92
2008-TBLM	Water	LVRT(13)	STABILIZATION	LVRT(12):80,87,92,89,70,86,68,96,73,78,64,97,85, LVRT(13):60	LVRT(12): 4,10,11,13,16,20,2	0	165	165
LVRT(13) Wetland Impact Subtotals (sq. ft.):						3,039	10,145	13,184
LVRT(13) Wetland Impact Subtotals (acres):						0.070	0.233	0.303
LVRT(13) Stream Impact Subtotals (sq. ft.):						3,323	6,340	9,663
LVRT(13) Stream Impact Subtotals (acres):						0.076	0.146	0.222
LVRT(13) Impact Type Subtotals (sq. ft.):						6,362	16,485	22,847
LVRT(13) Impact Type Subtotals (acres):						0.146	0.378	0.524
Total Wetland Impact Subtotals (sq. ft.):						22,225	83,957	13,184
Total Wetland Impact Subtotals (acres):						0.510	1.927	0.303
Total Stream Impact Subtotals (sq. ft.):						8,565	70,394	9,663
Total Stream Impact Subtotals (acres):						0.197	1.616	0.222
TOTAL PROPOSED IMPACTS (SQUARE FEET):						30,790	154,351	185,141
TOTAL PROPOSED IMPACTS (ACRES):						0.707	3.543	4.250

¹ Wetlands delineated per the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast and North Central Region. U.S. Army Corps of Engineers. 2011.

² Areas of delineated wetlands within the project boundary from survey of wetlands and located by VHB GPS data collections.

³ Proposed Permanent Impacts would result from fill- structure and riprap placement

⁴ Proposed Temporary Impacts would occur from temporary construction and the installation of erosion prevention and sediment control measures during construction.



Lamoille Valley Rail Trail – 401 Water Quality Certification Application

Appendix IA. Vermont Wetland Permit - Summary of Class II Wetlands/

Buffers Impacts

February 18, 2021;
Revised May 6, 2021

Lamoille Valley Rail Trail Rehabilitation Project

LVRT(11): Cambridge to Sheldon; LVRT(12): Hardwick to Morrisville; LVRT(13): Danville to Hardwick

Vermont Agency of Transportation

Vermont Wetland Permit - Summary of Class II Wetlands/ Buffers Impacts

Prepared by VHB

February 18, 2021

Last Revised: May 6, 2021

Wetland Complex ID	Feature ID ^{1,2}	Cowardin Classification	EPSC Sheet	Proposed Wetland Impacts				Reason For Impact Change
				Permanent Wetland Impacts ³ (Sq. Ft.)	Temporary Wetland Impacts ⁴ (Sq. Ft.)	Permanent Buffer Impacts ³ (Sq. Ft.)	Temporary Buffer Impacts ⁴ (Sq. Ft.)	
A12	2008-421	PEM1Y	LVRT(11):47	252	407	0	0	LOD adjustment
AI	2008-422	PEM1Y	LVRT(11):47	83	37	580	968	LOD adjustment
AI	2008-423	PEM1Y	LVRT(11):47	69	389	503	1,076	LOD adjustment
AJ	2008-424	PEM1Yb	LVRT(11):48	394	867	388	142	LOD adjustment
AJ	2008-425	PEM1Y/PUBb	LVRT(11):48	457	1,737	445	164	LOD adjustment
AJ	2008-426	PEM/Ubb	LVRT(11):48,49	367	1,417	289	1,297	LOD adjustment
AK	2008-430	PEM1Y	LVRT(11):49	54	563	392	890	LOD adjustment
AK	2008-431	PEM1Yb	LVRT(11):49	0	372	245	743	LOD adjustment
AK	2008-432	PEM/POW	LVRT(11):49	340	1,014	63	95	LOD adjustment
AK	2008-434	PEM/Ubb/POW	LVRT(11):49	240	533	119	594	LOD adjustment
AK	2008-435	PEM/Ubb	LVRT(11):50	122	749	317	501	LOD adjustment
AK	2008-438	PEM/PUBb	LVRT(11):51	133	582	55	87	LOD adjustment
AK	2008-439	PEM/PUBb	LVRT(11):51,53,54	961	3,413	0	0	LOD adjustment
AK	2008-440	PEM/PUBb	LVRT(11):53,54,35	375	2,007	28	1,373	LOD adjustment
AK	2008-441	PEM/PSSb	LVRT(11):54,35	0	266	0	152	LOD adjustment
AK	2008-442	PEM/SS1Y	LVRT(11):55,36	0	146	0	749	LOD adjustment
AK	2008-443	PEM/SS1Y	LVRT(11):55,36	0	86	0	368	LOD adjustment
AK	2008-444	PEM1Y	LVRT(11):55	178	579	248	103	LOD adjustment
AK	2008-445	PEM1Y	LVRT(11):55,37	204	787	106	283	LOD adjustment
AK	2008-446	PEM1Y/ PSS1Y	LVRT(11):55,37	0	374	65	0	LOD adjustment
AK	2008-447	PEM/SS1Y	LVRT(11):56	330	1,083	311	0	LOD adjustment
AK	2008-448	PEM1Y/ PSS1Y	LVRT(11):56	0	0	140	0	LOD adjustment
AK	2008-449	PEM1Y	LVRT(11):56	899	1,000	305	643	LOD adjustment
AK	2008-450	PEM/SS1Y	LVRT(11):56	951	873	171	0	LOD adjustment
AK	2008-451	PEM/SS1Y	LVRT(11):57	264	524	1,498	109	LOD adjustment
AK	2008-452	PEM/SS1Y	LVRT(11):58,57	622	2,112	10	14	LOD adjustment
AK	2008-453	PEM/SS1Y	LVRT(11):58	544	541	93	139	LOD adjustment
AK	2008-454	PSS1Y	LVRT(11):58	0	0	91	0	LOD adjustment
AK	2008-455	PEM1Y	LVRT(11):58	35	621	292	196	LOD adjustment
AK	2008-456	PEM1Y	LVRT(11):58	1	513	197	184	LOD adjustment
AK	2008-457	PSS1Y	LVRT(11):59	279	637	326	130	LOD adjustment
AK	2008-458	PEM/PUB	LVRT(11):59	235	941	233	0	LOD adjustment
AK	2008-459	PSS1Y	LVRT(11):59,60	386	1,168	424	0	LOD adjustment

Wetland Complex ID	Feature ID ^{1,2}	Cowardin Classification	EPSC Sheet	Proposed Wetland Impacts				Reason For Impact Change
				Permanent Wetland Impacts ³ (Sq. Ft.)	Temporary Wetland Impacts ⁴ (Sq. Ft.)	Permanent Buffer Impacts ³ (Sq. Ft.)	Temporary Buffer Impacts ⁴ (Sq. Ft.)	
AK	2008-460	PSS1Y	LVRT(11):59,60	267	921	410	0	LOD adjustment
AK	2008-461	PSS1Y	LVRT(11):60,38	0	0	131	124	LOD adjustment
AK	2008-462	PEM1/ PSS1C	LVRT(11):60,38	0	0	0	319	no change
AK	2008-465	PEM/SS1Y	LVRT(11):61	304	1,044	9	14	LOD adjustment
AK	2008-466	PEM1Y	LVRT(11):61	0	0	232	347	LOD adjustment
AK	2008-467	PSS1Y	LVRT(11):61	46	53	403	729	LOD adjustment
AK	2008-468	PSS1Y	LVRT(11):61	26	640	505	830	LOD adjustment
AK	2008-469	PUBb	LVRT(11):62	304	790	0	0	LOD adjustment
AK	2008-476	PSS/PFO1Y	LVRT(11):62	94	543	172	353	LOD adjustment
AQ	2008-477	PEM1Y	LVRT(11):63	0	363	633	939	LOD adjustment
AQ	2008-479	PSS/UB	LVRT(11):64	0	0	399	0	no change
AQ	2008-480	PSS1Yb	LVRT(11):64	296	427	124	205	no change
AQ	2008-481	PSS1Yb	LVRT(11):64	676	1,554	273	458	LOD adjustment
AQ	2008-484	PEM1Y	LVRT(11):65,40	0	0	0	1,488	LOD adjustment
AQ	2008-485	PEM1Y	LVRT(11):66	0	194	423	1,014	LOD adjustment
AQ	2008-486	PEM1Y	LVRT(11):66	13	354	700	779	LOD adjustment
AQ	2008-487	PEM1Y	LVRT(11):66	0	0	173	0	LOD adjustment
AQ	2008-488	PEM1Y	LVRT(11):66	174	560	545	988	LOD adjustment
AQ	2008-489	PEM1Y	LVRT(11):67	338	229	409	1,689	LOD adjustment
AT	2008-490	PEM1Y	LVRT(11):68	72	690	342	520	LOD adjustment
AT	2008-491	PEM1Y	LVRT(11):68	88	371	180	618	LOD adjustment
AT	2008-492	PEM1Y	LVRT(11):68	3	609	835	1,647	LOD adjustment
AT	2008-493	PEM1Y	LVRT(11):68,42	0	71	0	731	LOD adjustment
AT	2008-494	PFO1Y	LVRT(11):68,69	0	0	14,871	435	Offside Buffer Impact
AT	2008-497	PEM1Y	LVRT(11):70	276	554	519	779	LOD adjustment
AT	2008-498	PEM1Y	LVRT(11):71	0	0	1	0	LOD adjustment
AT	2008-503	PFO1Y	LVRT(11):73,43	191	1,059	0	48	LOD adjustment
AT	2008-504	PEM1Y/FO1Y	LVRT(11):73	136	793	126	189	LOD adjustment
AV	2008-505	PEM1Y/SS1Yb	LVRT(11):75	0	0	7,666	0	LOD adjustment
AV	2008-506	PEM/SS1Y/UB	LVRT(11):75	73	695	96	166	LOD adjustment
AV	2008-507	PEM1Y/PFO1Y	LVRT(11):75	0	5	527	1,357	LOD adjustment
AV	2008-508	PFO1Y	LVRT(11):75,44	0	0	0	308	LOD adjustment
AV	2008-510	PEM1Y	LVRT(11):76	576	1,518	789	1,312	LOD adjustment
AV	2008-511	PSS1Y	LVRT(11):76	82	719	226	333	LOD adjustment
AV	2008-512	PEM1Y	LVRT(11):76	0	341	169	498	LOD adjustment
AV	2008-513	PEM1Y	LVRT(11):77	333	1,041	0	0	LOD adjustment
AV	2008-515	PFO1Y/SS	LVRT(11):78,77	120	697	858	1,780	LOD adjustment
AW	2008-516	PSS1Y	LVRT(11):78	0	355	344	858	LOD adjustment
AW	2008-517	PFO1Y	LVRT(11):78	0	0	376	687	LOD adjustment
AW	2008-518	PFO1Y	LVRT(11):79	160	144	532	820	LOD adjustment
AW	2008-519	PEM1Y	LVRT(11):79	0	0	0	8	LOD adjustment

Wetland Complex ID	Feature ID ^{1,2}	Cowardin Classification	EPSC Sheet	Proposed Wetland Impacts				Reason For Impact Change
				Permanent Wetland Impacts ³ (Sq. Ft.)	Temporary Wetland Impacts ⁴ (Sq. Ft.)	Permanent Buffer Impacts ³ (Sq. Ft.)	Temporary Buffer Impacts ⁴ (Sq. Ft.)	
AX	2008-520	PEM	LVRT(11):80,45	0	430	0	6,242	LOD adjustment
AX	2008-521	PSS1Y	LVRT(11):80	0	0	4	397	LOD adjustment
AY	2008-522	PEM1Y	LVRT(11):80	0	0	335	676	LOD adjustment
AZ	2008-523	PSS1Y/EM	LVRT(11):81	64	588	593	789	LOD adjustment
BB	2008-524	PEM1Y/SS1Y	LVRT(11):82	253	339	520	918	LOD adjustment
BB	2008-526	PEM/SS1Y	LVRT(11):82,83	282	430	571	1,096	LOD adjustment
BC	2008-527	PEM1Y	LVRT(11):83	92	681	527	461	LOD adjustment
BC	2008-528	PSS1Y/EM1Y	LVRT(11):83,84	0	169	2,101	547	LOD adjustment
AT	2020/2008-495	PEM1Y	LVRT(11):69	1,347	0	409	0	LOD adjustment & Off side buffer impact
BB	2020-10	PEM	LVRT(11):81,82	0	47	828	988	LOD adjustment
AX	2020-11	PEM	LVRT(11):79	4	23	678	1,027	LOD adjustment
AV	2020-12	PEM	LVRT(11):77,78	61	182	655	965	LOD adjustment
AV	2020-14	PSS/PFO	LVRT(11):77	9	513	302	543	LOD adjustment
AT	2020-4	PEM	LVRT(11):68,42	0	4,432	9,070	765	LOD adjustment
AV	2020-6	PEM	LVRT(11):76	527	1,110	160	231	LOD adjustment
			LVRT(11) Impact Type Subtotals (sq ft):	16,062	52,616	58,685	50,015	
			LVRT(11) Impact Type Subtotals (acres):	0.369	1.208	1.347	1.148	
			LVRT(11) Impact Subtotals (sq ft):	68,678		108,700		
			LVRT(11) Impact Subtotals (acres):	1.577		2.495		
V	2008-218	PFO14B/SS1A/EME	LVRT(12):99	0	0	1,999	1,211	LOD adjustment
V	2008-219	PFO1Y	LVRT(12):99	98	565	116	184	LOD adjustment
V	2008-220	PEM/PFO	LVRT(12):99	107	290	0	0	LOD adjustment
V	2008-221	PFO14E	LVRT(12):99,85	0	115	0	517	no change
W	2008-226	PEM/SS1Y	LVRT(12):100	92	565	60	251	LOD adjustment
W	2008-227	PEM/SS1Y	LVRT(12):100	72	47	366	488	LOD adjustment
W	2008-228	PEM1Y	LVRT(12):100	1,278	0	187	0	LOD adjustment
W	2008-229	PSS1B	LVRT(12):100	885	0	416	0	LOD adjustment
W	2008-230	PSS1B	LVRT(12):100	0	0	1,921	0	LOD adjustment
W	2008-232	PEM1B	LVRT(12):100	0	0	338	0	LOD adjustment & Offside buffer adjustment
W	2008-233	PSS1Y	LVRT(12):100,101	0	0	4,346	0	LOD adjustment
W	2008-234	PSS1Bb	LVRT(12):101	3	223	1,341	1,710	LOD adjustment
W	2008-235	PSS1B	LVRT(12):101	580	427	273	352	LOD adjustment
W	2008-236	PEM/SS/PFO	LVRT(12):101	0	0	662	1,110	LOD adjustment
W	2008-237	PEM1Y/PSS	LVRT(12):102	168	428	188	277	LOD adjustment
W	2008-238	PEM1Y	LVRT(12):102	155	826	0	0	LOD adjustment
W	2008-239	PEM1B	LVRT(12):102	0	0	131	0	LOD adjustment
W	2008-240	PEM1Y	LVRT(12):103,86	0	0	0	1,221	LOD adjustment

Wetland Complex ID	Feature ID ^{1,2}	Cowardin Classification	EPSC Sheet	Proposed Wetland Impacts				Reason For Impact Change
				Permanent Wetland Impacts ³ (Sq. Ft.)	Temporary Wetland Impacts ⁴ (Sq. Ft.)	Permanent Buffer Impacts ³ (Sq. Ft.)	Temporary Buffer Impacts ⁴ (Sq. Ft.)	
W	2008-241	PEM1Y	LVRT(12):103	148	262	264	799	LOD adjustment
W	2008-242	PEM1B	LVRT(12):103	73	624	53	155	LOD adjustment
W	2008-244	PSS1Y	LVRT(12):103	12	557	1,015	670	LOD adjustment
Y	2008-246	PEM1Y	LVRT(12):104,87	0	309	142	2,019	LOD adjustment
Y	2008-247	PEM1Y	LVRT(12):105,88	0	403	0	2,029	LOD adjustment
Y	2008-248	PEM1Y/SS1Y	LVRT(12):105	289	881	0	0	LOD adjustment
Y	2008-249a	PSS1B	LVRT(12):105	152	423	163	206	LOD adjustment
Z	2008-251	PEM1Y	LVRT(12):105,106	276	829	218	0	LOD adjustment
Z	2008-252	PSS14B	LVRT(12):105,106	314	455	326	133	LOD adjustment
A9	2008-255	PEM1Y	LVRT(12):106,107,89	0	140	0	2,243	LOD adjustment
AA	2008-257	PUB/PVP	LVRT(12):108	236	629	266	954	LOD adjustment
AA	2008-258	PUB/PEM/PVP	LVRT(12):108	34	234	1,042	1,174	LOD adjustment
AB	2008-262	PEM1Y/PSS1Y	LVRT(12):110,91	203	686	1,006	415	LOD adjustment
AB	2008-263	PEM1Y/PSS1Y	LVRT(12):110	0	1	153	282	LOD adjustment
AC	2008-264	PSS1Y/FO1Y	LVRT(12):111	53	234	34	474	LOD adjustment
AC	2008-265	PEM/SS1Y/PVP	LVRT(12):111	5	106	374	679	LOD adjustment
AC	2008-266	PEM/PSS1Y	LVRT(12):111	0	0	1,023	0	LOD adjustment
AC	2008-267	PFO1Y	LVRT(12):111	0	0	400	0	LOD adjustment
A1	2008-273	PEM1Y	LVRT(12):112	198	717	53	0	LOD adjustment
A1	2008-274	PEM/SS1Y	LVRT(12):112	259	718	13	27	LOD adjustment
AE	2008-280	PEM1Y/SS1Y	LVRT(12):115	0	0	141	0	LOD adjustment
AE	2008-282	PEM1Y	LVRT(12):115,116,93	0	0	297	3,265	LOD adjustment
AE	2008-284	PFO1Y	LVRT(12):116	0	0	180	489	LOD adjustment
AE	2008-285	PEM1Y/ PVP	LVRT(12):116,117	386	984	256	469	LOD adjustment
AF	2008-289	PEM1Y/SS1Y	LVRT(12):117	101	233	344	907	LOD adjustment
AF	2008-291	PEM/PSS1Y	LVRT(12):118,117	88	701	363	551	LOD adjustment
AF	2008-294	PFO1Y	LVRT(12):118,119	759	1,474	971	1,807	LOD adjustment
AF	2008-296	PFO1Y	LVRT(12):119	230	428	214	320	LOD adjustment
AF	2008-297	PFO1Y	LVRT(12):119	295	672	3	0	LOD adjustment
AF	2008-299	PFO1Y	LVRT(12):119	321	621	27	41	LOD adjustment

Wetland Complex ID	Feature ID ^{1,2}	Cowardin Classification	EPSC Sheet	Proposed Wetland Impacts				Reason For Impact Change
				Permanent Wetland Impacts ³ (Sq. Ft.)	Temporary Wetland Impacts ⁴ (Sq. Ft.)	Permanent Buffer Impacts ³ (Sq. Ft.)	Temporary Buffer Impacts ⁴ (Sq. Ft.)	
AF	2008-300	PFO1Y	LVRT(12):119	192	746	0	0	LOD adjustment
AF	2008-302	PSS1Y	LVRT(12):120	243	622	408	850	LOD adjustment
AF	2008-303	PEM1Y/FO1Y	LVRT(12):120,121	349	1,147	1,368	2,793	LOD adjustment
AF	2008-304	PFO1Y	LVRT(12):121	236	1,458	159	22	LOD adjustment
AF	2008-306	PFO1Y	LVRT(12):122	25	48	518	782	LOD adjustment
AF	2008-308	PEM1Y	LVRT(12):122	81	33	531	853	LOD adjustment
AF	2008-309	PEM1Y	LVRT(12):123,97	0	0	830	1,689	LOD adjustment
AF	2008-310	PEM1Y	LVRT(12):123	168	838	33	52	LOD adjustment
V	2019/2008-217	PEM1B/SS1B	LVRT(12):99,84	0	0	427	634	LOD adjustment
AF	2020/2008-295	PFO	LVRT(12):118,117	2,390	1,731	487	211	LOD adjustment
W	2020-16	PEM	LVRT(12):101	278	532	1,070	911	LOD adjustment
			LVRT(12) Impact Type Subtotals (sq. ft.):	11,832	23,962	27,516	36,226	
			LVRT(12) Impact Type Subtotals (acres):	0.272	0.550	0.632	0.832	
			LVRT(12) Impact Subtotals (sq. ft.):	35,794		63,742		
			LVRT(12) Impact Subtotals (acres):	0.822		1.463		
Z1	2008-110	PEM1F/ PSS1F	LVRT(13):33,31	0	0	0	879	LOD adjustment
Z1	2008-111	PEM1F/ PSS1F	LVRT(13):33,31	0	18	0	1	no change
Z1	2008-111a	PEM1F/ PSS1F	LVRT(13):33,31	0	24	0	560	LOD adjustment
A	2008-116	PFO1B	LVRT(13):34	25	49	485	718	LOD adjustment
A	2008-117	PSS1Y	LVRT(13):34	0	0	420	630	LOD adjustment
B	2008-127	PFO, PEM1Y	LVRT(13):36,35	28	569	246	907	LOD adjustment
B	2008-128	PFO1B/SS1B	LVRT(13):36	224	558	0	0	no change
B	2008-129	PFO,PEM1Fb	LVRT(13):36	47	31	309	517	LOD adjustment
B	2008-131	PSS1B	LVRT(13):36	222	214	298	561	LOD adjustment
B	2008-133	PEM/FO1Y	LVRT(13):37	21	0	0	0	LOD adjustment
B1	2008-141	PEM1B/FO1B	LVRT(13):40	0	0	0	1,511	LOD adjustment
B1	2008-142	PEM	LVRT(13):40	0	0	0	487	LOD adjustment
B1	2008-143	PEM1B	LVRT(13):40	0	0	0	725	LOD adjustment
C	2008-146	PEM1Y	LVRT(13):41	0	0	497	763	LOD adjustment
E	2008-147	PEM1Y	LVRT(13):41,42	77	245	858	1,747	LOD adjustment
D	2008-148	PEM1B	LVRT(13):42	75	502	312	1,024	LOD adjustment

Wetland Complex ID	Feature ID ^{1,2}	Cowardin Classification	EPSC Sheet	Proposed Wetland Impacts				Reason For Impact Change
				Permanent Wetland Impacts ³ (Sq. Ft.)	Temporary Wetland Impacts ⁴ (Sq. Ft.)	Permanent Buffer Impacts ³ (Sq. Ft.)	Temporary Buffer Impacts ⁴ (Sq. Ft.)	
F	2008-151	PFO1/PEM	LVRT(13):44	48	24	328	541	no change
F	2008-152	PFO1Y/PEM	LVRT(13):44	0	2	301	790	LOD adjustment
G	2008-155	PEM1B	LVRT(13):45	0	0	577	864	LOD adjustment
H	2008-156	PEM1Y	LVRT(13):47	0	19	241	974	LOD adjustment
I	2008-161	PEM1B/SS1B	LVRT(13):48	178	171	41	192	LOD adjustment
I	2008-162	PEM1Y/SS1Y	LVRT(13):48	187	777	0	0	LOD adjustment
I	2008-163	PEM1Y/SS1Y	LVRT(13):49	113	624	395	703	LOD adjustment
K	2008-170	PFO14B	LVRT(13):50	94	273	585	1,048	LOD adjustment
K	2008-178	PEM1Y	LVRT(13):54	0	0	762	1,006	LOD adjustment
K	2008-182	PEM1B/SS1B	LVRT(13):56	368	698	252	389	LOD adjustment
O	2008-185	PEM/FO14B	LVRT(13):59,32	0	0	0	1,326	LOD adjustment
O	2008-186	PEM/FO14B	LVRT(13):59,32	0	0	0	1,335	LOD adjustment
O	2008-187	PSS1B	LVRT(13):59,32	0	0	0	732	LOD adjustment
O	2008-192	PEM1/POWb	LVRT(13):59,60	155	181	524	811	LOD adjustment
O	2008-196	PEM1Y	LVRT(13):60	0	0	422	607	LOD adjustment
O	2008-197	PSS1Y/EM	LVRT(13):60	206	264	565	907	LOD adjustment
O	2008-199	PEM1Y	LVRT(13):60	192	634	648	511	LOD adjustment
P	2008-201	PEM1Y/PSS	LVRT(13):62	367	0	0	0	LOD adjustment
Q	2008-208	PEM/SS1Y	LVRT(13):66,65	2,992	2,811	398	1,011	LOD adjustment
Q	2008-209	PSS1B	LVRT(13):66	206	902	199	288	LOD adjustment
U	2008-215	PFO1/4AB	LVRT(13):69	377	591	376	562	LOD adjustment
U	2008-216	PFO1/4AB	LVRT(13):69	155	0	0	0	LOD adjustment
R	2020/2008-212	PEM1Y	LVRT(13):68	64	627	318	899	LOD adjustment
BD	2020-100	PEM	LVRT(13):47	0	0	0	2,008	LOD adjustment
U	2020-400	PEM/PFO	LVRT(13):69	0	0	123	159	no change
	LVRT(13) Impact Type Subtotals (sq. ft.):			6,421	10,808	10,480	28,693	
	LVRT(13) Impact Type Subtotals (acres):			0.147	0.248	0.241	0.659	
	LVRT(13) Impact Subtotals (sq. ft.):			17,229		39,173		
	LVRT(13) Impact Subtotals (acres):			0.396		0.899		
TOTAL PROPOSED IMPACTS (SQUARE FEET):				34,315	87,386	96,681	114,934	
				121,701		211,615		
TOTAL PROPOSED IMPACTS (ACRES):				0.788	2.006	2.219	2.639	
				2.794		4.858		

¹ Wetlands delineated per the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northeast and North Central Region. U.S. Army Corps of Engineers. 2011.

² Areas of delineated wetlands within the project boundary from survey of wetlands and located by VHB GPS data collections.

³ Proposed Permanent Impacts would result from structure placement, banking repair, ditching and riprap placement within wetlands/buffers.

⁴ Proposed Temporary Impacts would occur from temporary construction and the installation of erosion prevention and sediment control measures during construction.



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Appendix IB. Project Coordinates

March 31, 2021;
Revised May 20, 2021

STP LVRT(11)		
Trail Segment (Centroid)	44.77161	-72.87369
Sheldon (Start)	44.881847	-72.942095
Sheldon (End)	44.872370	-72.938238
Fairfield (Start)	44.872370	-72.938238
Fairfield (End)	44.767313	-72.852538
Bakersfield (Start)	44.767313	-72.852538
Bakersfield (End)	44.734554	-72.833643
Fletcher (Start)	44.734554	-72.833643
Fletcher (End)	44.704542	-72.832074
Cambridge (Start)	44.704542	-72.832074
Cambridge (End)	44.654012	-72.822243
STP LVRT(12)		
Trail Segment (Centroid)	44.54304	-72.46123
Morristown (Start)	44.52289	-72.566676
Morristown (End)	44.567647	-72.529303
Wolcott (Start)	44.567647	-72.529303
Wolcott (End)	44.52289	-72.42067
Hardwick (Start)	44.52289	-72.42067
Hardwick (End)	44.50615	-72.364561
STP LVRT(13)		
Trail Segment (Centroid)	44.49586	-72.28356
Hardwick (Start)	44.504874	-72.360797
Hardwick (End)	44.54453	-72.268397
Greensboro (Start)	44.54453	-72.268397
Greensboro (End)	44.543008	-72.262396



Stannard (Start)	44.543008	-72.262396
Stannard (End)	44.542459	-72.262796
Walden (Start)	44.542459	-72.262796
Walden (End)	44.541299	-72.263771
Hardwick (Start)	44.541299	-72.263771
Hardwick (End)	44.503749	-72.291018
Walden (Start)	44.503749	-72.291018
Walden (End)	44.431544	-72.24086
Cabot (Start)	44.431544	-72.24086
Cabot (End)	44.423662	-72.223177
Danville (Start)	44.423662	-72.223177
Danville (End)	44.423603	-72.222916



Lamoille Valley Rail Trail – 401 Water Quality Certification Application

Appendix IJ LVRT 401 Physical Biological Chemical Conditions

March 31, 2021;
Revised May 21, 2021

401 WATER QUALITY CERTIFICATION
STP LVRT (11,12,13) Water Quality Measurement Station

Site Name	River Mile	Location Details	Physical Conditions Monitored	Chemical Conditions Monitored	Biological Conditions Monitored
Joes Pond	n/a	Station located in center of middle section of lake. West Danville, VT (44.40810, -72.20690)	Conductivity	Chloride, Nitrogen, Phosphorus, pH	N/A
Joes Pond	n/a	Station located at deepest point in main lake Danville, VT (44.40810, -72.22080)	Turbidity, Conductivity	Chloride, Nitrogen, Phosphorus, pH	N/A
Joes Pond	n/a	Station located in the northern end of the lake. Cabot, VT (44.41720, -72.22360)	Conductivity	Nitrogen, Phosphorus	N/A
Joes Brook	14.7	Located above Joes Pond above railroad bridge crossing. Walden, VT (44.42436, -72.22368)	Conductivity	Chloride, Nitrogen, Phosphorus, pH	Macroinvertebrate (Very Good)
Stannard Brook	0.3	Located above Orton Rd, which is just above railroad trestle Stannard, VT (44.54075, -72.26313)	Turbidity, Conductivity	Chloride, Nitrogen, Phosphorus, pH	Macroinvertebrate (Good-Fair), Habitat Observations
Lamoille River	76.8	Located just north of Route 16 crossing north of East Hardwick. Sampled adjacent to railroad bed. Hardwick, VT (44.52433, -72.29248)	Turbidity, Conductivity	Chloride, Nitrogen, Phosphorus, pH	Macroinvertebrate (Very Good), Habitat Observations, Fish assessment (Good)
Bailey Brook	0.5	Located above railroad tracks in East Hardwick. Hardwick, VT (44.52667, -72.30472)	Conductivity	pH	Fish Assessment (Excellent), habitat observations
Porter Brook	0.1	Park at pull off on Rte 15 directly across from Porter Brook. Descend steep bank and cross old rail bed and cross Lamoille River to confluence with Porter Brook. Go 100 meters upstream to bend in brook. Hardwick, VT (44.50399, -72.33881).	Turbidity, Conductivity	Chloride, Nitrogen, Phosphorus, pH	Macroinvertebrate (Excellent Very Good), Habitat Observations
Lamoille River	70.5	Located below Hardwick WWTF outfall about 200m and downstream of dam on Route 15. Hardwick, VT (44.51694, -72.38111)	Turbidity, Conductivity	Chloride, Nitrogen, Phosphorus, pH	Macroinvertebrate (Excellent Very Good), Habitat Observations
Bunker Brook	0.1	Next to Bunker Hill Rd, immediately upstream of Rte 15. Hardwick, VT (44.51598, -72.39955)	Turbidity	Chloride, Nitrogen, Phosphorus	N/A
Kate Brook	0.1	At rail trail crossing off of Kate Brook Rd. Hardwick, VT (44.52173, -72.41869)	Turbidity	Chloride, Nitrogen, Phosphorus	N/A
Elmore Branch	0.2	At School St bridge. Wolcott, VT (44.53930, -72.45723)	Turbidity, Conductivity	Chloride, Nitrogen, Phosphorus, pH	Macroinvertebrate (Very Good- Good), Habitat Observations
Lamoille River	58	Upstream of Rt. 15A bridge, adjacent to Darling Rd and rail trail. NRSA/Probability site. Morristown, VT (44.56326, -72.56487)	Turbidity, Conductivity	Chloride, Nitrogen, Phosphorus, pH	Macroinvertebrate (Very Good), Habitat Observations
Black Creek	N/A	Bouchard Rd crossing Sheldon, VT (44.89459, -72.94369)	Turbidity	Nitrogen, Phosphorus	N/A
Black Creek	N/A	Beneath Pumpkin Village Road. Fairfield, VT (44.85090, -72.93231)	Turbidity (NTU)	Nitrogen (mg/L), Phosphorus (ug/L)	N/A
Black Creek	N/A	Main stem of Black Creek, beneath Paradee Road. Fairfield, VT (44.83200, -72.92860)	Turbidity (NTU)	Nitrogen (mg/L), Phosphorus (ug/L)	N/A
Black Creek	N/A	Main stem of Black Creek, beneath Chester A. Arthur Road. Fairfield, VT (44.81900, -72.92221)	Turbidity (NTU)	Nitrogen (mg/L), Phosphorus (ug/L)	N/A
Fairfield River	0.2	Located south of Fairfield station 0.4 mi. just above RR crossing. Fairfield, VT (44.81347, -72.92161)	Turbidity, Conductivity	Nitrogen, Phosphorus, Chloride, pH	Macroinvertebrate Assessment (Good), Fish assessment(very good), Habitat observations
Black Creek	N/A	East Fairfield, Ryan Rd crossing Fairfield, VT (44.81135, -72.90862)	Turbidity (NTU)	Nitrogen (mg/L), Phosphorus (ug/L)	N/A
Black Creek	14.5	Access off Route 36 (or Austin Rd) through pasture/crops. rotational probabilistic site. Fairfield, VT (44.78923, -72.87001)	Turbidity, Conductivity	Nitrogen, Phosphorus, pH	Macroinvertebrate Assessment (Very Good), Fish assessment(Good), Habitat observations



Lamoille Valley Rail Trail – 401 Water Quality Certification Application

Appendix IK. Act 250 Application #7C1321 FINDINGS OF FACT

October 25, 2012;
Revised May 20, 2021

State of Vermont
NATURAL RESOURCES BOARD
DISTRICT ENVIRONMENTAL COMMISSION #7
1229 Portland Street Suite 201·St. Johnsbury· Vermont 05819-2099

RE: Vermont Agency of Transportation
and
Vermont Association of Snow Travelers, Inc.

Application #7C1321
FINDINGS OF FACT
AND CONCLUSIONS OF LAW
AND ORDER
10 V.S.A. §§ 6001-6093 (Act 250)

I. INTRODUCTION

On August 10, 2011, the Vermont Agency of Transportation and the Vermont Association of Snow Travelers, Inc. filed application #7C1321 for a project described as a master plan review of the ± 93 mile long Lamoille Valley Rail Trail (LVRT) year-round multi-purpose recreational trail and alternative transportation path project, including a request for full findings and a permit to construct Phase 1, consisting of a total of ± 44 miles in 3 non-contiguous segments. The project is located in the towns of St. Johnsbury, Danville, Walden, Cabot, Greensboro, Hardwick, Wolcott, Hyde Park, Morristown, Johnson, Cambridge, Fletcher, Bakersfield, Fairfield, Sheldon, Highgate, and Swanton.

A complete copy of the application was sent by the Applicants to all parties by right, including each town, each town planning commission, the Northeastern Vermont Development Association, the Lamoille County Planning Commission, the Northwest Regional Planning Commission, and the Agency of Natural Resources. An additional copy was provided, voluntarily by the Applicants, to each of the 18 Town Clerk offices, to aid its convenient availability. The application included the listing of the names and addresses of over 660 adjoining landowners along the 93-mile LVRT corridor. The Applicants also filed an electronic copy of the application with the District #7 Environmental Commission (the Commission) pursuant to Act 250 Rule 10(E), and the electronic documents were made available by the Commission on the Act 250 Database web site.

On August 26, 2011, the District Coordinator's office issued its notice of the application with the Commission's scheduled prehearing conference. The Commission's notice included directions for accessing the application documents, including instructions for access via the Act 250 Database website.

On September 20, 2011, a pre-hearing conference was held at the Lamoille Union High School in Hyde Park, at which time the Applicants provided a project overview, various persons and entities made requests for preliminary party and/or friend of the Commission status, and site visits were discussed. The Commission conducted site visits with interested persons on October 21 and 28, 2011 at specific locations identified by the Commission along the 93-mile corridor.

On October 13, 2011, the Commission issued its pre-hearing conference Report and Order, including identification of participating parties, preliminary parties, friends, and schedule of site

visits and hearings. This Order also identified that hearing(s) would be scheduled following submittal of more detailed preliminary plans, which were expected to be submitted by the Applicants in November or December 2011; the Applicants later indicated that completion of the preliminary plans was delayed due to other resource demands resulting from Tropical Storm Irene, which hit Vermont on August 29, 2011.

In September and October 2011, the Commission received submittals from the Applicants and from preliminary parties Kate Scarlott and Rob MacLeod, generally pertaining to federal preemption and party status.

On February 21, 2012, the Applicants filed the preliminary plans for Phase 1 of the Project, additional information regarding municipal impacts, and a summary table.

On February 27, 2012, the Commission issued its response to the September and October 2011 submittals from the Applicants and from preliminary parties Kate Scarlott and Rob MacLeod, together with its schedule of application hearings. Hearings were held in Hyde Park on March 23, 2012 and March 29, 2012.

Under Act 250, projects are reviewed based on the 10 criteria of 10 V.S.A., Section 6086(a) (1)-(10). Criteria 1 to 5 inclusive were heard at the March 23, 2012 hearing, and the remaining criteria (6 to 10 inclusive) were heard at the March 29, 2012 hearing.

Before granting a permit, the Commission must find that the project complies with all criteria and is not detrimental to the public health, safety or general welfare.

The current application is a request for affirmative findings under all criteria in support of a permit to construct Phase 1. Before the Commission can grant a permit to construct Phase 1, it must be able to make affirmative findings under all of the criteria for those aspects of the project seeking construction approval.

In addition to the Phase 1 project proposed for construction, the current application is a request for partial findings based on the application received, under specifically identified limited criteria, for the Phase 2 and Phase 3 components of the LVRT Master Plan project. Any construction beyond the limits of the Phase 1 component of the LVRT Project will require an additional future application, and the future Applicant(s) will be obligated to demonstrate conformance with all criteria for which the current Applicants have not already achieved affirmative findings.

The Commission's review is pursuant to Act 250 Rule 21 and the former Environmental Board's "Master Permit Policy and Procedure for Partial Findings of Fact", adopted February 25, 1998, Amended March 29, 2000 (the Policy). Pursuant to the Policy, the Commission can not issue a "master construction permit", but instead issue findings establishing requirements which will guide the Applicants as they proceed with plans to actually construct components of

a Master Plan; as individual projects are proposed for construction, the Applicants will be required to file amendment applications, detailing the actual impacts of those developments under the relevant criteria in the context of the findings in a Master Plan decision.

Related Master Permit Guidance (May 1999) (henceforward, Guidance) identifies that:

An applicant may seek complete findings or partial findings under specified criteria in the context of a master plan application. Act 250 Rule 21 provides for:

1. review of a master plan under all the criteria of 10 VSA Section 6086 (a); or
2. partial review of the project under selected criteria in a sequence determined by Petitioner, with the approval of the Commission, as most practicable, taking into consideration the natural resource concerns most salient to the project and the availability of information to support affirmative findings under each criterion.

For the Master Plan (Phase 2 & 3) component of the LVRT application, the Applicants requested affirmative findings under select criteria (namely 1, 1C, 2/3, 5, 6, 7, 8A, 9A, 9B, 9C, 9D&E, 9F, 9G, 9H, 9J, 9K, 9L, and 10), and partial findings as supported by the application and as detailed on Schedule B (Exhibit 2) for the remaining criteria. The Applicants conceptually envision return to the Commission with future applications for the Phase 2 and Phase 3 components of the Master Plan project. In order to obtain a permit for an individual component or phase of the master plan project, in the future, the Applicants must provide the additional information, as partially outlined in the following decision, which will enable the Commission to issue affirmative findings on all criteria. The Commission emphasizes that its findings reflect only the information received to date. In its findings, the Commission has outlined the additional information which the Commission anticipates will be the minimum required in support of affirmative findings for a future component of the master plan project, i.e. the Phase 2 and/or Phase 3 component of the LVRT Master Plan project.

Another important aspect of the current decision concerns its duration. The Commission must determine and identify the duration of its partial findings. The Policy provides that “partial findings of fact are generally issued for a period of five years since this represents a reasonable planning period within which potential impacts under the relevant criteria can be ascertained”.

The Commission must state its decisions in the form of Findings of Fact and Conclusions of Law. The facts we have relied upon are contained in the documents on file identified as Exhibits 1 through 76, and the testimony at the hearings held on March 23 and March 29, 2012.

On April 24, 2012, the Commission provided notice that it would accept proposed findings through May 9, 2012. On May 1, 2012, the Commission issued a hearing recess order in which it stated that if proposed findings are filed, other parties would have until May 23, 2012 to

submit their responses, if any. The hearing recess order also set out provisions for the Applicants' subsequent filing of environmental permits listed on the Applicants' Exhibit 32, to the extent that the Applicants had indicated reliance on such permits for Phase 1 under the various applicable Act 250 criteria.

The Applicants and Parties Kate Scarlott and Rob MacLeod submitted proposed findings of fact and conclusions of law on May 9, 2012. On May 23, 2012, the Applicants and Kate Scarlott and Rob MacLeod submitted responses to the proposed findings.

On June 29, 2012, the Applicants submitted an updated Exhibit 32, and requested an extension of time to submit the response to the Commission's recess order, and the Commission granted this extension request.

On August 31, 2012, the Applicants submitted their response to the recess order including four permits or authorizations issued by the Agency of Natural Resources.

The Commission adjourned the hearing on October 24, 2012 upon completion of Commission deliberations following receipt of the additional information from Applicants.

II. JURISDICTION, FEDERAL PREEMPTION

The basis of jurisdiction is identified in Jurisdictional Opinion #5-06, #6-005(2009), #7-267 (Reconsideration) issued September 30, 2009 which provides, in part, that the "involved land" area is in the order of 100 acres, (i.e. exceeds the 10 acre jurisdictional standard) for the LVRT state purpose project. Additional related detail is outlined in Jurisdictional Opinion #5-06, #6-005(2009), #7-267 issued June 1, 2009.

The National Trails System Act ("Trails Act"), 16 U.S.C. § 1247(d), establishes limits on the extent of the Commission's Act 250 jurisdiction. As identified in the jurisdictional opinion dated June 1, 2009, state and local regulations apply only to the extent that they deal with the state's historic police powers and do not frustrate development of a trail on the rail banked right-of-way. Operation of the LVRT within the rail banked right-of-way cannot be prohibited or unduly burdened, and the scope of the Commission's review is therefore narrower than would otherwise apply under Act 250.

Trails Act preemption was first addressed by the district environmental coordinators in their Jurisdictional Opinion to determine the applicability of 10 V.S.A., Chapter 151 (Act 250) to the LVRT, dated June 1, 2009 ("JO"). The JO surveyed preemption law under the Trails Act from other jurisdictions and reached the following conclusion:

It is important to note that the terms of the federal law establish limits on the extent of Act 250 jurisdiction: *the development of the recreational trail cannot be prohibited or denied a land use permit.*

See JO at p.16 (emphasis added).

The JO was reconsidered but not with respect to its statements regarding preemption. See Jurisdictional Opinion #5-06, #6-005 (2009), #7-267 (Reconsideration) dated September 30, 2009 at p. 4, which concludes:

Based upon the above referenced analyses and conclusions, the construction and use of the Lamoille Valley Rail Trail will require a land use permit under the provisions of 10 V.S.A. Chapter 151 (Act 250). This jurisdictional conclusion must be read in the context of the jurisdictional limitations imposed by federal law and related caselaw, as was discussed on pages 14-16 of the Jurisdictional Opinion. The pages referenced in the Reconsidered JO explicitly state that the development of the LVRT cannot be prohibited or denied a land use permit.

The legal basis for federal preemption in this case is set forth in detail in the JO and the Reconsidered JO. The Commission does not have the authority to take actions that would excessively delay or otherwise interfere with Applicants' ability to maintain the right-of-way as a recreational trail. See *Green Mountain Railroad Corp. v. Vermont*, 404 F.3d 638, 643 (2d Cir. 2005)(states and towns may exercise traditional police powers over the development of railroad property, but such regulations must not entail extended or open-ended delays, or the exercise of discretion on subjective questions.); *Friends of the East Lake Sammamish Trail v. City of Sammamish*, 361 F.Supp.2d 1260, 1274 (W.D. Wash. 2005)(state and local governments have the right to impose appropriate safety, land use and zoning regulations on recreation trails, but those regulations apply only to the extent that they do not frustrate development of a trail on the railbanked right-of-way) *Id.* at 1274; *Blendu v. Friends of the Weiser River Trail, Inc.*, 1999 WL 33944266 at *6 (D. Idaho 1999) (regulations on trail must not interfere with the trail manager's right and ability to maintain the right-of-way as a recreational trail in the interim).

In the *Blendu v. Friends of the Weiser River Trail, Inc.* Case, the Court recognized, however, that the rail banking provisions were not the same as railroad operations, and it further noted that the Surface Transportation itself agreed that some local regulation could be allowed:

That being said, the STB has said that states and local governments may exercise some control over railbanked rights-of-way. Its March 20, 1998 Decision states:

In addition to maintaining the integrity of rail banking, Friends is obligated to use the right-of-way so that it does not become a public nuisance. However, that is a state or local requirement, not a Board requirement. *Federal preemption does not extend to the legitimate exercise of police power by states and localities.* In *Iowa Southern R., Co.* the ICC said, We note, however, that *a trail use must comply with State and local land use plans, zoning ordinances, and public health and safety legislation....* This local

regulation can address the Landowners' concerns about such issues as vandalism or noise.... Indeed, the State and local agencies in the area are attuned to the specific interests and needs of their communities.... *Nothing in our Trails Act rules or procedures is intended to usurp the right of state, regional and local entities to impose appropriate safety, land use, and zoning regulations on recreational trails.*

STB Decision, dated March 20, 1998, p. 10. The STB makes it clear, however, that their “chief concern” is that “the statutory rail banking condition not be compromised, and that *nothing occur that would preclude a railroad's right to reassert control over the right-of-way at some future time to revive active service.*” *Id.*

In sum, the development of the Lamoille Valley Rail Trail recreational trail cannot be prohibited or denied a land use permit, state regulation may not frustrate development of a recreational trail on rail banked land, and nothing may occur that would preclude a railroad's right to reassert control over the right-of-way at some future time to revive active rail service on the railroad right of way, however the Commission retains its historic, ordinary, and usual police powers to regulate land use and the operation of the trail under Act 250.

III. PARTY STATUS, FRIENDS OF THE COMMISSION

Parties to this application who attended the prehearing and identified their intention to participate in the application are:

1. The Applicant by:

John Dunleavy, Todd Sumner, Stephen Reynes, Thomas Getz, Cathy Conte, Jeff Nelson, Briana Cronin, Bryant Watson, Laird MacDowell, Ken Gammell. Other VAST members appeared at the prehearing and may participate as witnesses for the Applicant.

2. The Agency of Natural Resources (ANR), by Elizabeth Lord, Esq.;
3. The Town of St. Johnsbury, by selectman Jim Rust and manager Ralph Nelson;
4. The Town of Highgate, by David Jescavage, Administrator;

The Town of Highgate identified that it owns adjoining land and is interested in impacts under criteria 1, 3, 4, 5, 7, 9, and 10.

5. The Town of Morristown, by Dan Lindley, Administrator;
6. Town of Hyde Park, by Ron Rodjenski, Administrator;

7. Village of Hyde Park, by Karen Wescom, Clerk;
8. Town of Johnson, by Duncan Hastings, Manager;
 The Town of Johnson identified that it co-owns adjoining land .
9. Town of Johnson Planning Commission, by Duncan Hastings, Manager;
10. Village of Johnson, by Duncan Hastings, Manager;
 The Village of Johnson identified that it co-owns adjoining land.
11. Lamoille County Planning Commission, by Steve Munroe, Regional Planner;
12. Northwest Regional Planning Commission, by Greta Brunswick, Senior Planner;

Preliminary Parties

The following adjoining property owners, area residents, and interested persons attended the prehearing in person or via a representative, or submitted a written request on or before the date of the prehearing, and were admitted as preliminary parties, as indicated, pursuant to 10 V.S.A. § 6085(c) and Act 250 Rule 14(E).

	<u>Name</u>	<u>Criteria</u>
13.	Barry Cahoon	1 as it relates to emissions from motor vehicle usage 5 as it relates to traffic safety 8 as it relates to trash / litter, and noise from motor vehicle usage
14.	Pam Montgomery	5 as it relates to traffic safety 7 as it relates to municipal services (police, enforcement)
15.	Norman Bouchard	1B as it relates to waste disposal 5 as it relates to traffic control 7 as it relates to municipal services (police, enforcement)
16.	Charlie Faust	1E as it relates to potential for impact on a stream 1B as it relates to waste disposal 7 as it relates to municipal services (police, enforcement)
17.	At Last Properties, LLC (c/o Jackson)	7 as it relates to municipal services (police, enforcement)

18. Steve Larrabee 8 as it relates to aesthetics and character of the area
19. John Lawyer 5 as it relates to traffic control
7 as it relates to municipal services (police, enforcement)
20. Kate Scarlott & Rob MacLeod 1 as it relates to noise and emissions from motor vehicle usage
1B as it relates to waste disposal
5 as it relates to traffic safety
7 as it relates to municipal services (police, enforcement)
8 as it relates to trash / litter, and noise from motor vehicle usage
21. Barbara Malloy 1 as it relates to noise from motor vehicle usage
7 as it relates to municipal services (police, enforcement)
8 as it relates to noise from motor vehicle usage
22. Greg Beaudoin 8A as it relates to wildlife habitat
23. Randall Feeley 1 as it relates to air emissions and dust
24. Bruce Kaufman & Judy Ann Jarvis 1 as it relates to noise and emissions from motor vehicle usage
1E as it relates to potential for impact on a stream
1F as it relates to impact on a river shoreline
3 as it relates to impact on an existing shallow water supply
4 as it relates to soil erosion near a river
5 as it relates to traffic control
8 as it relates to aesthetics, and noise from motor vehicle usage
9B as it relates to loss of primary agricultural soils farmland
25. Perley & Carolyn Greaves 8 as it relates to aesthetics of a new bridge
26. Mark Boyden 1B as it relates to toxic substances (eg use of pesticides)
9B as it relates to impact on primary agricultural soils
27. Steven Gorelick 1 as it relates to noise from motor vehicle usage
5 as it relates to traffic safety
7 as it relates to municipal services (police, enforcement)
8 as it relates to noise from motor vehicle usage
28. Charles Emers & Anne McPherson 1 as it relates to odors and noise from motor vehicle usage
7 as it relates to municipal services (police, enforcement)

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|-----|---------------------------------------|--|
| | | 8 as it relates to noise from motor vehicle usage |
| 29. | Green Mtn. Club | 5 as it relates to traffic control and adequacy of parking
9K as it relates to potential impact on the Long Trail hiking trail |
| 30. | Northern Counties
Health Care | 1 as it relates to emissions and noise from motor vehicle usage
7 as it relates to municipal services (police, enforcement)
8 as it relates to noise from motor vehicle usage |
| 31. | Judith Kane
& John Kane | 1 as it relates to noise from motor vehicle usage
1F as it relates to impact on a river shoreline
4 as it relates to soil erosion near a river
7 as it relates to municipal services (police, enforcement)
8 as it relates to aesthetics, and noise from motor vehicle usage |
| 32. | Claudia Sacuk | 1 as it relates to noise from motor vehicle usage
7 as it relates to municipal services (police, enforcement)
8 as it relates to noise from motor vehicle usage |
| 33. | Francis Caufield
& Evelyn Caufield | 1 as it relates to emissions and noise from motor vehicle usage
4 as it relates to soil erosion and a bank washout
7 as it relates to municipal services (police, enforcement)
8 as it relates to noise from motor vehicle usage |
| 34. | Michael Rainville | 5 as it relates to access during construction, and traffic safety at the existing driveway / rail corridor crossing |
| 35. | David Brown | 1 as it relates to emissions and noise from motor vehicle usage
7 as it relates to municipal services (police, enforcement)
8 as it relates to noise from motor vehicle usage
8A as it relates to impact on wildlife habitat from motor uses |
| 36. | John & Dianne
Reed | 5 as it relates to traffic control and adequacy of parking
7 as it relates to municipal services (police, enforcement)
8 as it relates to aesthetics and character of the area |
| 37. | Angelique Ferris | 1 as it relates to emissions and noise from motor vehicle usage
8 as it relates to noise from motor vehicle usage |
| 38. | Aaron Palmieri | 5 as it relates to traffic control and adequacy of parking |
| 39. | Randy Bennett | 1D as it relates to floodways
4 as it relates to erosion on or near his farmland |

40. Garret Hirchak 5 as it relates to traffic control and adequacy of parking
 7 as it relates to municipal services (police, enforcement)
41. Bruce & Molly 1 as it relates to noise and emissions from motor vehicle usage
 Markwell 8 as it relates to noise and aesthetic character of the area

Friends of the Commission

The District Commission admitted the following persons or entities, who attended the prehearing, to participate as Friends of the Commission pursuant to 10 V.S.A. § 6085(c)(5) and Act 250 Rule 14(E).

42. Cambridge Greenway Committee, by Clayton Zeke Zucker, Co-Chairman;

Admitted as a Friend under Criterion 5 as it relates to project transportation connectivity with local transportation systems located in Johnson.
43. Rails-to-Trails Conservancy, by Carl Knoch, Manager of Trail Development;

Admitted as a Friend under Criterion 5.
44. Harold Schwartz;

Admitted as a Friend under Criteria 1 and 8, related to noise from motor vehicle usage.
45. Carroll Lawrence;

Admitted as a Friend under Criterion 7 as it relates to municipal services (police, enforcement).
46. Friends of the Lamoille Valley Rail Trail, by David Polow;

Admitted as a Friend under Criterion 5 as it relates to non-motorized user interests.
47. Vermonters for a Clean Environment, by Matt Levin;

Admitted as a Friend pursuant to the Petition filed with the Commission.
48. Steve McLeod, Vermont Traditions Coalition.

Admitted as a Friend under Criterion 5 as it relates to motorized user interests.

49. James & Judith Nudd;

Admitted as Friends under Criteria 1 and 8, related to noise; Criterion 1B as it relates to waste disposal; and Criterion 7 as it relates to municipal police / enforcement.

Final Party Status Determinations

Pursuant to 10 V.S.A. §6085(c)(2) and Act 250 Rule 14(F), the District Commission made preliminary determinations concerning party status at the commencement of the hearing on this application. Prior to the completion of deliberations, the District Commission re-examined the preliminary party status determinations and found that parties continue to qualify under the relevant criteria as indicated below. It is noted that some parties had provided very little evidence in support of the preliminary party status award, did not appear at the hearing with any further evidence, and upon re-examination the Commission found that some persons simply did not qualify as parties under some or all of the criteria. The Commission found final party status as follows (for the parties who are not parties by right):

- a. Barry Cahoon 1 as it relates to emissions from motor vehicle usage
 5 as it relates to traffic safety
 8 as it relates to trash / litter, and noise from motor vehicle usage
- b. Pam Montgomery 5 as it relates to traffic safety
 7 as it relates to municipal services (police, enforcement)
- c. Norman Bouchard 1B as it relates to waste disposal
 5 as it relates to traffic control
 7 as it relates to municipal services (police, enforcement)
- d. Charlie Faust 1E as it relates to potential for impact on a stream
 1B as it relates to waste disposal
- e. At Last Properties,
 LLC (c/o Jackson) 7 as it relates to municipal services (police, enforcement)
- f. Steve Larrabee 8 as it relates to aesthetics and character of the area
- g. Kate Scarlott
 & Rob MacLeod 1 as it relates to noise and emissions from motor vehicle usage
 1B as it relates to waste disposal
 5 as it relates to traffic safety
 7 as it relates to municipal services (police, enforcement)
 8 as it relates to trash / litter, and noise from motor vehicle usage
- h. Bruce Kaufman
 & Judy Ann Jarvis 5 as it relates to traffic control
 8 as it relates to aesthetics, and noise from motor vehicle usage

- 9B as it relates to loss of primary agricultural soils farmland
- i. Perley & Carolyn Greaves 8 as it relates to aesthetics of a new bridge
 - j. Mark Boyden 1B as it relates to toxic substances (eg use of pesticides)
9B as it relates to impact on primary agricultural soils
 - k. Charlie Emers & Anne McPherson 1 as it relates to odors and noise from motor vehicle usage
7 as it relates to municipal services (police, enforcement)
8 as it relates to noise from motor vehicle usage
 - l. Green Mtn. Club 5 as it relates to traffic control and adequacy of parking
9K as it relates to potential impact on the Long Trail hiking trail
 - m. Northern Counties Health Care 1 as it relates to emissions and noise from motor vehicle usage
7 as it relates to municipal services (police, enforcement)
8 as it relates to noise from motor vehicle usage
 - n. Judith Kane & John Kane 1 as it relates to noise from motor vehicle usage
7 as it relates to municipal services (police, enforcement)
8 as it relates to aesthetics, and noise from motor vehicle usage
 - o. Michael Rainville 5 as it relates to access during construction, and traffic safety at the existing driveway / rail corridor crossing
 - p. John & Dianne Reed 5 as it relates to traffic control and adequacy of parking
7 as it relates to municipal services (police, enforcement)
8 as it relates to aesthetics and character of the area
 - q. Angelique Ferris 1 as it relates to emissions and noise from motor vehicle usage
8 as it relates to noise from motor vehicle usage
 - r. Garret Hirchak 5 as it relates to traffic control and adequacy of parking
7 as it relates to municipal services (police, enforcement)
 - s. Bruce & Molly Markwell 1 as it relates to noise and emissions from motor vehicle usage
8 as it relates to noise and aesthetic character of the area

IV. BURDEN OF PROOF

The burden of proof is on an applicant with respect to Criteria 1, 2, 3, 4, 9 and 10, while the

burden of proof is on parties opposing the application with respect to Criteria 5, 6, 7, and 8. 10 V.S.A. § 6088. Additionally, under Criterion 9(A) (impact of growth), if the Town where the project is located does not have a duly adopted capital improvement program, then the burden of proof under this criterion is also on project opponents. 10 V.S.A. § 6086(a)(9)(A). The term “burden of proof” refers to two separate burdens: 1) the burden of production, and 2) the burden of persuasion. The applicant always has the burden of producing sufficient evidence for the Commission to make an affirmative finding under all criteria (i.e. “the burden of production”), while the burden of persuasion shifts to parties in opposition under Criterion 5, 6, 7, 8 and 9(A). See Re: Pratt’s Propane, #3R0486-EB, Findings of Fact, Conclusions of Law and Order at 4-5 (Jan. 27, 1987); Re: Town of Stowe, #100035-9-EB, Findings of Fact, Conclusions of Law and Order at 38 (May 22, 1998).

V. FINDINGS OF FACT

a. Introduction to the Findings

At issue in this application is the extent to which the Commission can conclude that the Applicants have, by a preponderance of the evidence, established conformance with the Act 250 criteria such that affirmative findings may be issued under that criterion or those criteria, notably for the master plan component of the application. Affirmative findings are the findings under those criteria wherein the Commission concludes that the applicant has satisfactorily demonstrated full conformance such that no further evidence need be produced for a fixed period of time in the future. Affirmative findings and a conclusion of law, if not appealed, remain binding on the Applicants, parties, and the Commission for a period of five years, for the reviewed project (the Applicants may seek to renew such findings prior to the expiration of the five year period). If a subsequent application is filed within the five year period (for construction of an additional individual component of the master plan project), no additional evidence need be submitted by the Applicants under criteria for which affirmative findings have been issued. As indicated in the Policy, it is generally not possible for a Commission to make final findings of fact and conclusion of law for a phased project under certain criteria, including criteria 5, 6, 7, 8, 9(A), 9(K), and 10, until a final decision is issued for a particular phase (or for the entire project) based upon the review of a complete application. In the present case, the Commission is able to reach a conclusion of law under all criteria for the Phase 1 component of the LVRT Project, and a positive conclusion of law under criteria 1, 1(A), 1(C), 2 & 3, 4, 5, 6, 7, 8(A), 9(A), 9(B), 9(C), 9(D), 9(E), 9(F), 9(G), 9(H), 9(J), 9(K), and 9(L), for the Phase 2 and Phase 3 components of the LVRT Project (i.e. the Master Plan).

A secondary purpose of the findings is to provide the Applicants and Parties with findings related to non-conformance. For example, the Commission may identify shortfalls in the evidentiary or factual record which have resulted in a failure to achieve affirmative findings. This information places the Applicants and Parties on notice of such deficiencies - so that the Applicants and Parties may specifically address such issues in future applications.

The Commission makes the following findings (partial findings for the master plan, where applicable) and conclusions of law with respect to both components of the application, i.e. the Phase 1 project proposed for construction, and the Master Plan project (Phase 2 & 3).

In making the following findings, the Commission has summarized the statutory language of the 10 criteria of 10 V.S.A., Section 6086(a). This document is the Commission's Findings of Fact and Conclusions of Law for the application. The Findings and Conclusions correspond to the two components of the application (construction of Phase 1, and partial findings for the Master Plan (Phase 2 & 3)). To the extent any proposed findings of fact and conclusions of law are included below, they are granted; otherwise, they are denied. *See, Secretary, Agency of Natural Resources v. Upper Valley Regional Landfill Corp.*, 167 Vt. 228, 242-43 (1997).

b. Findings under the Act 250 Criteria

SECTION 6086 (a) (1) WATER AND AIR POLLUTION:

The Commission concludes that this project will not result in undue air or water pollution:

SECTION 6086(a)(1) AIR POLLUTION:

1. The proposed Lamoille Valley Rail Trail (LVRT) is located on a rail bed which is no longer actively used by trains. The train tracks and railroad ties have been removed, and the rail bed is accessed and used, in many locations, by the general public, as a recreation trail, or “rail trail”. The LVRT Project includes construction of extensive improvements to the rail trail which will restore connectivity (for example, where lost due to a bridge washout) and which will enhance and support use of the railroad bed as a more formally designated year-round multi-purpose recreational trail and alternative transportation path. [Exhibit 2]
2. The proposed LVRT will be used for non-motorized alternative transportation and recreation purposes on a year-round basis, as well as by snowmobiles during the winter months. [Exhibit 2; Testimony of B. Watson]
3. Approximately 60% of the LVRT corridor and nearly all of Phase I is currently used by snowmobiles. [Testimony of B. Watson]. Winter use of the rail trail by snowmobiles is expected to increase as a result of the LVRT’s construction and the integrity and continuity of the rail bed are reestablished. The winter trail use will be dispersed over the 93-mile length of the trail and will not be concentrated in one area. [Exhibit 8]
4. The LVRT will serve as a major connector for many forms of alternative transportation (notably, non-winter motorized use is excluded), connecting to more than 30 existing trails along its length. However, daily vehicle use (defined as snowmobiles) is not expected to increase by more than the Vermont Clear Air Attainment Act threshold of

10,000 vehicles per day over the next 10 years. [Exhibit 8]

5. In accordance with 49 C.F.R. § 1152.29 (Prospective use of rights-of-way for interim trail use and rail banking), use of the LVRT Project rail corridor is subject to possible future reconstruction and reactivation of the right-of-way for rail service. [Exhibit 6]
6. Snowmobiles are manufactured to comply with specific environmental standards, and regulations established and imposed by the United States Environmental Protection Agency (EPA) pertaining both to noise and emissions [Testimony of B. Watson. *See*, US Environmental Protection Agency, Nonroad Engines, Equipment, and Vehicles, Snowmobiles, Dirt Bikes, and ATV's (2008). Exhaust Emission Standards for 2012 and Later Model Snowmobiles. Retrieved from <http://www.epa.gov/oms/recveh.htm>]
7. Vermont has established 'noise' standards that snowmobiles must comply with, in order to operate in Vermont. 23 V.S.A., Chapter 29 § 3205 (d) indicates that all snowmobiles operating in Vermont cannot exceed a decibel level of more than 73 db, which is lower than that of a lawnmower, 90 db. There are fines up to \$500 if this law is violated. [Exhibit 2]
8. The EPA 2012 Exhaust Emission Standards do not necessarily apply to all snowmobiles in operation (and to be operated) on the LVRT. The newer machines, built after 2006, are subject to the EPA regulation, however some older snowmobiles still in use do not comply with these EPA standards. [Testimony of Kate Scarlott]. Over time, emission standards are expected to yield lower emissions of pollutants (per snowmobile) associated with newer cleaner technology and evolving stricter emission standards, and associated with gradual decrease in usage of older (and more highly-polluting) snowmobiles as these machines will generally tend to age until non-use is reached, or in some instances may be repaired as vintage machines which would be used on a limited basis only.
9. An informal study of recreational trail use was conducted by the Minnesota Department of Natural Resources (MDNR) on the North Shore Trail, a 152-mile long trail between Duluth and Grand Marais (University of Minnesota, 2008). This study showed an increase in snowmobile trail traffic of 900% over a seven-year period between 1986 and 1992. Vermont has seen an overall 27% decrease in snowmobile traffic since 2000. If one applies the Minnesota study to the LVRT Project, the result is a prediction that snowmobile usage will increase from 77 ADT to 1,233 ADT (average daily total) on the LVRT. This estimate falls well below the 10,000 ADT increase indicated within Vermont's Clean Air Attainment Act and VTrans standards. [Exhibit 8].
10. The predicted estimated increased user traffic is expected to occur over the entire 93 mile long LVRT. However, specific location(s) of the predicted increase in user traffic on the LVRT was not identified, i.e. information regarding where a specific concentrated use increase may occur, if any, was not identified; perhaps an increased

use will be dispersed more or less evenly along the trail, or perhaps there will be some more popular segment which experience increased usage relative to other less popular segments or locations; this information was not presented to the Commission. The Phase 1 Project may (or may not) cause an increase in traffic in the Phase 2 or Phase 3 segments of the trail. In addition, no information was provided regarding the rate of rail trail usage without the project; i.e. without the project there may be a decrease in rail trail usage, or there may be an increase in rail trail usage, or the (future) usage may remain more or less unchanged.

11. The LVRT Project is classified for Categorical Exclusion (CE) pursuant to 23 CFR 771.117 (c)(3), (c)(18) and (d)(3). [Exhibit 8]
12. LVRT construction will follow the existing rail bed within the existing ROW with the exception of a very short segment located at the VT 15 crossing (Bridge A27) in the Town of Walden, and other State highway crossings which may require small re-alignments to mitigate severely skewed crossing angles. *See* Exhibit 6. At the Walden re-alignment, the shift is minimal and the required right-of-way area of about 0.124 acres will be purchased in fee simple. [Exhibit 8]
13. Due to the minor alignment shift noted in the preceding finding, the Applicants conducted a limited noise evaluation regarding impacts of this shift. The results of the noise evaluation revealed that the residence (on Greaves Road) to the east of the trail is expected to experience a 1 to 2 dBA increase in sound level as a result of the minor shift in the trail alignment. Other residences located in the vicinity of the alignment change are not expected to experience any increase in sound levels. Residences located to the west of the alignment change are expected to experience a minor decrease in sound levels as a result of the minor change in trail alignment. [Exhibit 8]
14. The evidence presented by the Applicants includes the Preliminary Plans for the Phase 1 component of the LVRT Project [Exhibit 40], and the Conceptual Plans for the entire LVRT Project (Phase 1, 2 and 3) [Exhibit 30]. The Preliminary Plans are more detailed than the Conceptual Plans. The Phase 1 component of the Project for which Preliminary Plans were filed, consists of three non-contiguous segments located in the towns of St. Johnsbury and Danville (± 15 miles, Phase 1A); Morristown, Hyde Park, Johnson and Cambridge (± 17 miles, Phase 1B); and Sheldon, Highgate and Swanton (± 12 miles, Phase 1C). The current application does not include proposed construction of the Phase 2 or Phase 3 components of the LVRT Project. [Exhibits 1, 30, 40]
15. Kate Scarlott and Rob MacLeod own and occupy property in Walden, adjacent to the Phase 3 component of the LVRT Project. The home owned and occupied by Kate Scarlott and Rob MacLeod is located approximately 55 feet from the LVRT Project. [Testimony of K. Scarlott]

16. Kate Scarlott and Rob MacLeod provided information excerpted from a U.S. Environmental Protection Agency (EPA) publication (Exhibit #47) which identified air pollutants found in snowmobile exhaust, and which further identifies that these pollutants can cause serious adverse health effects, including benzene (carcinogen); toluene (adverse impacts on central nervous system, headaches, nausea); xylenes (CNS, respiratory, cardiovascular and kidney impacts); carbon monoxide (impacts on blood oxygen and related heart impacts); particulate matter (respiratory and lung symptoms, asthma, bronchitis, irregular heartbeat); PAH compounds (carcinogens); oxides of nitrogen (respiratory symptoms, asthma, heart impacts, lung disease). Exhibit #47 also includes excerpts from the state of Montana's Department of Environmental Quality website, notably "As they are currently designed, two-stroke engines - whether in a snowmobile or any other kind of vehicle or device - emit significant amounts of air pollution. One reason is that 20-33 percent of the fuel goes through the engine and out the tailpipe unburned....snowmobiles are usually tuned :rich", meaning that there is a high ratio of fuel to oxygen. This improves cold starts and throttle response, but also contributes to emission problems. Winter air is often stagnant in low areas such as mountain valleys, limiting dispersion of emissions. Heavy snowmobile traffic in congested areas also contributes to emission causing air quality concerns". No testimony from a medical expert was provided by Kate Scarlott or Rob MacLeod concerning the alleged health impacts from snowmobile emissions. [Exhibit 47]
17. With respect to potential vehicle emissions impacts of the LVRT Project, Kate Scarlott and Rob MacLeod allege that they suffer health impacts from snowmobile emissions. Kate Scarlott testified that she experiences choking, coughing, headaches, and nausea from even a single snowmobile passing her home, even ten minutes after the snowmobile has passed. Rob MacLeod testified that he is asthmatic and that the passing of a single snowmobile can cause his lungs to constrict (though other (i.e. non-snowmobile) motor vehicle emissions do not impact his asthma). {Testimony of K. Scarlott and R. MacLeod}. There was no other such testimony from anyone else living along or near the LVRT Project corridor. The stated health concerns and health impacts identified by Kate Scarlott and Rob MacLeod are not the types of impacts suffered by a typical or average person.
18. VAST member Ken Gammell has been an avid snowmobile user and enthusiast for 49 years, since 1963. As someone very familiar with snowmobiles Ken Gammell questions the reliability of the information supplied by Kate Scarlott and Rob MacLeod in Exhibit #47. Ken Gammell notes that in a 2 stroke engine fuel does not go through the exhaust, it is direct injected, as occurs in a diesel engine, and Ken Gammell believes the information from the State of Montana within Exhibit #47 is old and out of date, from around 1967. [Testimony of K. Gammell]
19. A road crossing is located in relative close proximity to the home owned and occupied by Kate Scarlott and Rob MacLeod. LVRT trail users must (or should) stop at this road

crossing (e.g. on the trail, near the edge of the road to be crossed), to ensure safe travel across the road. Snowmobile stoppage results in increased air emissions at the stop location, from stopped snowmobiles revving their engines to cross, also snowmobiles stoppage sometimes consists of a grouping of two or more snowmobiles and associated increased air emissions from snowmobiles, at or near the stoppage area. Observed snowmobile users often travel in groups, and do not always stop at this road crossing. Kate Scarlott and Rob MacLeod testified that they have often been woken by noise from snowmobiles traveling both before and after curfew hours, during winter months, occasionally more than one time in a single night, and that this noise, coupled with the stress it causes, makes it very difficult to fall back to sleep, which compounds the impact and affects their health. The noise tends to jolt them awake, and they then have difficulty falling back to sleep. This seasonal noise differs considerably from the quieter environment which exists when the snowmobiles are not using the nearby trail. Kate Scarlott and Rob MacLeod go to bed early in order to rise early for farming-related chores in the morning. [Testimony of K. Scarlott and R. MacLeod; Exhibit 30]

20. Noise expert Les Blomberg, of the Noise Pollution Clearinghouse, testified for Kate Scarlott and Rob MacLeod. Les Blomberg testified that night-time noise from snowmobiles in close proximity to homes (such as the residence occupied by Kate Scarlott and Rob MacLeod) can cause sleep interference and sleep related health effects. The noise levels recorded on the railroad bed and described in Les Blomberg's Snowmobile Noise Study (Exhibit #53) exceed World Health Organization recommendations to protect against sleep interference: 60 dBA Lmax outside. Sleep interference leads to a number of adverse health and well-being impacts, including reduced work performance and increased likelihood of automobile accidents. [Testimony of L. Blomberg; Exhibit 53]
21. A noise Study was conducted by noise expert Les Blomberg for Kate Scarlott and Rob MacLeod. This noise Study was based in part on noise emissions at the property owned and occupied by Kate Scarlott and Rob MacLeod, and from snowmobiles traveling on the existing rail trail. The noise data in the Study shows that many of the snowmobiles traveling past the home owned and occupied by Kate Scarlott and Rob MacLeod, on the rail road bed, during the study period, exceeded the State snowmobile noise limit of 73 dBA and that nearly all exceeded the Act 250 property line noise guidelines of 70 dBA, and/or the Act 250 home guidelines of 55 dBA. [Exhibit 53]
22. Charles Emers and Anne McPherson own and occupy a residence with small organic farm and home business (bakery) located adjacent to (and in relative close proximity to) the LVRT Project (Phase 2). Charles Emers and Anne McPherson are concerned about adverse noise and potential health effects from snowmobile operation near their home and business, and testified that existing law enforcement of occasional motorized usage on the rail trail is not effective. [Testimony of C. Emers and A. McPherson]. Data on existing or potential future noise emissions at or near the property owned and occupied

by Charles Emers and Anne McPherson property has not been reviewed.

23. Bruce and Molly Markwell own and occupy a residence located adjacent to and in close proximity (approximately 35 feet) to the LVRT Project (Phase 3). Bruce and Molly Markwell are concerned about adverse noise and potential health effects from snowmobile operation near their home. [Testimony of B. Markwell]. Data on existing or potential future noise emissions at or near the Markwell property have not been reviewed. A public highway (Vermont Route 215) is located in relative close proximity to the Markwell residence, and creates existing noise impact to the Markwell property from motorized uses on the public highway. [Exhibit 30]
24. Steve Larrabee owns and occupies a home located within 100 feet of the LVRT Project. The 100 foot area separating the home and the existing rail trail is open lawn. Steve Larrabee and his wife frequently walk the trail in summer and in winter. The existing noise impacts from snowmobile traveling on the trail, as experienced by Steve Larrabee, are not disturbing or alarming to Steve Larrabee. The Larrabee home is near a location where the trail crosses a roadway, i.e. where snowmobiles stop or slow down for the road. The Larrabee home is also located near a public highway (Vermont Route 15), and Steve Larrabee finds that he experiences considerably greater noise impact from traffic on this highway in comparison to the noise emissions attributable to usage of the existing snowmobile trail near his home. [Testimony of S. Larrabee]
25. Individuals residing near the LVRT Project will have varying sensitivity to noise. Some individuals will likely have diminished hearing and/or may simply be accustomed to noise in general, and are therefore less sensitive to noise emissions in general. Other individuals who do not have diminished hearing and/or may simply be less accustomed to noise in general, are therefore more sensitive to noise emissions in general. Some individuals who are snowmobile enthusiasts or who simply like the aesthetic experience of combustion engines and motorized travel will derive pleasure from the noise emissions associated with snowmobiles.
26. Total scope and intensity of night-time noise from motorized (snowmobile) users, and resultant potential noise effects on nearby noise-sensitive residents, is highly dependent on curfew compliance, and compliance with travel in only the designated areas (i.e. avoidance of travel in locations outside of the designated trail). The linear and dispersed nature of the project, and the numerous side trails which intersect it, through varying terrain and rural areas presents a challenging enforcement setting, as violators may physically escape law enforcement personnel unless aggressive monitoring and compliance enforcement systems are consistently employed.
27. VAST has developed a system for responding to complaints about VAST trails usage, including usage on the LVRT. This system includes a complaint form which is available on the VAST website, and direct response by a VAST official. VAST will

also complete monitoring with two types of equipment, infrared to detect physical presence, and magnetic which also determines speed of travel. These devices will be deployed, for example to confirm suspected problem areas, and law enforcement will be involved as needed. Additional future equipment may include auto-photos or videos with remote download via WiFi signal, though detection of license plate numbers may present a challenge with photo technology. Violators caught are fined \$600 which is not trivial and provides a deterrent. VAST pays a fee to all the county sheriffs to cover snowmobile trails in the state (not just the LVRT, all snowmobile trails). Payments are tracked on an hourly basis, and the system involves coordination by the Vermont Department of Fish and Wildlife, the Sherriff's Association, and the Vermont Police Association. Number of infractions are reported annually and vary from year to year. Law enforcement agencies have the ability (funding) to obtain needed equipment, e.g. for monitoring. [Testimony of Bryant Watson and Laird McDowell]

28. Article II of the Lease between VTrans and VAST requires development and submittal of a management plan for the trail that addresses the governing structure, trail management (to including law enforcement) and operations, for review and approval by the State of Vermont, every two years. Article II of the Lease also prohibits use of all-terrain vehicles (ATV's) except at pre-existing authorized crossings, unless decided otherwise by the State of Vermont through a public decision making process that includes public hearings. Article III of the Lease limits snowmobile usage to between the hours of 6:00 am and 11:00 pm daily. VAST has developed a procedure for responding to complaints associated with trail usage, including curfew violations of the type which may generate noise issues, including as-needed involvement of local law enforcement. Curfew violators can be fined up to six hundred dollars, citations have been issued on a snowmobile trail located in Island Pond, however none were recalled to date on the LVRT corridor. [Testimony of Bryant Watson; Exhibit 6].
29. Complaints relating to existing trail usage, notably snowmobiles, received by VAST to-date, have been minimal. For example, in 2011 there were total of three complaints received of which two were snowmobile curfew violations and one was reported vandalism (driving off the designated trail, on a lawn area); in 2012 there was only one complaint which was a snowmobile curfew violation. These complaints came from a single source, Kate Scarlott. [Testimony of Laird MacDowell].
30. The LVRT Project does not involve manufacturing or industrial processes or any heated buildings. [Exhibit 2]
31. Dust will be controlled during and after construction. The LVRT Project construction will follow the Erosion Prevention and Sediment Control Plan (EPSC) as described under Criterion 4 to ensure disturbed areas are stabilized as soon as possible. During construction, water and/or calcium chloride will be used to control dust if necessary. After construction, disturbed areas along the trail will be stabilized in accordance with

the trail construction details, including crushed stone surface with grassed shoulders. Long-term stockpiles of soil materials associated with ditch cleanouts will be seeded and mulched. Through the implementation of the construction phase EPSC plan and given the operational phase design of the trail, no significant dust issue is anticipated. [Testimony of J. Nelson; Exhibits 2, 8, 30]

32. The LVRT Project does not involve parking for more than 500 vehicles, fuel burning equipment with over 10 million BTUs/hour, or coal burning equipment. [Exhibit 2]
33. The LVRT Project does not require an Air Pollution Control Permit from the Agency of Natural Resources (ANR). [Exhibit 8]
34. The LVRT Project does not involve radioactive materials. [Exhibit 2]
35. Use of the LVRT trail corridor by recreational users including snowmobilers is an existing allowed use on the trail. Snowmobiles currently operate on approximately 60% of the trail corridor. The Vermont Legislature directed VTrans to enter into a long-term lease with VAST to operate the LVRT. [Exhibit 5] The lease states that the LVRT corridor shall be “converted to a year-round, multi-use recreation path” and defines multi-use as follows:

“Multi-use” shall mean all forms of non-motorized transportation and recreation, *as well as those form of motorized transportation and recreation allowed under 23 U.S.C. § 217(h) (Bicycle and pedestrian walkways; use of motorized vehicles)* and Federal Highway Administration regulations and guidelines for transportation enhancement activities. [Exhibit 6 (emphasis added)].

The Vermont Legislature did not prohibit the imposition of additional restrictions on snowmobile usage as a component of project review under Act 250. Article III of the Lease between VTrans and VAST [Exhibit 6] addresses anticipated snowmobile use and incorporates a limitation on the use of snowmobiles to after 6:00 am and before 11:00 pm. *Id.* at Article 3.1(b), Page 4.

36. The LVRT corridor was used historically by trains, and no data on the air emissions associated with this train usage was presented to the Commission. The historical air emission from trains would have included noise in the form of engines chugging and an occasional loud train whistle, with these noises likely occurring on a regular schedule. [Exhibits 1, 2]
37. In addition to air emissions from motor vehicles (snowmobiles), there will be some temporary air emissions associated with labor and equipment during the construction phase of the LVRT Project. Also, non-motorized trail users will emit occasional minor noise for example people talking or shouting, car doors slamming, horses feet clomping,

etc., with travel along the LVRT. No information was submitted which suggested that these emissions may represent adverse air pollution.

38. Existing air emissions NOT associated with rail trail or LVRT Project usage (i.e. other existing emissions) are present in many locations at or near the LVRT Project. These air “pollutants” vary and include vehicle exhaust and miscellaneous noise emissions.
39. Hours of operation of the LVRT, and other user rules, will be clearly displayed on signage to be installed and maintained along the LVRT [Exhibits 2, 35].
40. Numerous various properties are located near the LVRT Project. The features and land uses of these properties vary widely along the LVRT Project and include residential, commercial, industrial, municipal, farming, open meadowland, forests, highways, rural areas, outskirts of towns, etc. Each such nearby property has its own unique setting and physical conditions and attributes. Impact of air emissions (including noise) to each nearby property is unique and will depend in part on the physical conditions present including the land uses and activities. For example, an earthen berm or bank located between the LVRT Project and a nearby building will reduce noise emissions towards the building below the level that would otherwise exist without the earthen berm or bank; for example, the specific distance between the LVRT Project and a nearby building will determine in part the level of noise from the LVRT Project which may reach the building, whereby a building having a greater physical separation from the LVRT Project will experience lower levels of noise emissions in comparison to a building located in closer proximity to the LVRT Project which would experience relatively higher levels of noise (all other factors being equal); and lastly, for example, potential snowmobile noise impact to a building which is an occupied permanent residence in which noise-sensitive people regularly sleep in winter months differs from the potential noise impact to a commercial or industrial building which is unoccupied at night-time, is occupied by night-shift workers who are not sleeping, or is a residential structure with minimal overnight occupancy (example, vacation cabin used sporadically or only in non-winter times of the year).
41. The Commission is reviewing the current application based on the conditions which existed at the time the application was filed. Conditions on nearby properties (not under the control of the Applicants) may change in the future, and air emission impact to or towards the changed property may change as a result of this change in condition.
42. The LVRT Project is a year-round multi-purpose recreational trail and alternative transportation path project. [Exhibit 2]. The very nature of the LVRT Project means that peak use will occur at times when most people are recreating, i.e. on weekends and holidays. For this reason, the LVRT Project is expected to have greatest noise impact when users are recreating or vacationing, and snowmobile usage is greatest, for example on weekends and holidays in winter months when snow and weather conditions are

favorable for snowmobiling. Some use of the LVRT Project will also occur at non-peak times, i.e. during weekdays.

43. The Commission will include the following conditions in any permit it may issue for the Phase 1 component of the LVRT Project:

“Snowmobile operation shall occur only between 6:00 AM to 11:00 PM daily, and seasonally between December 16 and April 15 inclusive. These hours and dates may be exceeded only by amendment to this permit or to meet temporary emergency needs.

Usage of All Terrain Vehicles (ATV’s) on the Lamoille Valley Rail Trail (excepting at limited existing State-approved crossing locations, or as needed to provide reasonable accommodation under the Americans with Disabilities Act (ADA), or as needed to respond to emergency transportation needs) is strictly prohibited.”

Discussion, Criterion 1

Motor Vehicle Emissions, including Noise

Under Act 250 caselaw, noise is cognizable under Criterion 1 – Air Pollution only if the impact rises to the level of causing adverse health effects. *See Bull’s Eye Sporting Center*; Land Use Permit # 5W0743-2-EB, Findings of Fact, Conclusions of Law, and Order at 14-15 (February 27, 1997). (“Noise is considered air pollution where its occurrence may cause adverse health effects. The test for undue air pollution caused by noise is whether the noise has impacts rising above annoyance and aggravation to cause adverse health effects such as hearing damage.”). As stated in *Bull’s Eye*, the standard for whether noise impacts cause undue adverse health effects looks at the *equivalent* noise levels of the Project:

The United States EPA guidelines suggest that hearing damage may occur at equivalent sound levels that exceed 70 dBA. The noise levels used by the EPA in setting its guidelines are equivalent sound levels.

The former Environmental Board in *Bull’s Eye* found that *equivalent* sound level is calculated in a manner similar? to that which is used to determine an arithmetic average. Id. at page 10, Findings 39 and 40. The Board specifically noted the importance of evaluating equivalent noise levels rather than instantaneous noise levels:

The parties did not prepare evidence demonstrating equivalent sound levels. Rather, the NEAQT [technical consultant] data collection performed during the Panel Site Visit depicted instantaneous noise levels exclusively. By providing the instantaneous level, the Permittees submit a conservative measure of noise data, since the average or equivalent level will always be lower. Id. at page 14.

Bull's Eye is instructive because it appears that the evidence provided on behalf of Kate Scarlott and Rob MacLeod was based on instantaneous noise as opposed to equivalent sound level. Under *Bull's Eye* and *Re: John and Joyce Belter, #4C0643-6R-EB*, Findings of Fact, Conclusions of Law, and Order at 13 (May 28, 1991) (involving drilling and blasting), there is no evidence that shows that the fleeting passage of snowmobiles would have the potential to cause actual hearing damage in violation of Act 250 Criterion 1. Arguably the LVRT Project will not have any noise impacts that could potentially damage hearing. However, it should be noted that the Bull's Eye project consisted of seasonal operation of a shooting range between the hours of 10 AM and 6:30 PM only, and the Board's 1997 Bull's Eye decision did not include any analysis of impacts from noise occurring between the hours of 6:30 PM and 10 AM, i.e. at night-time, when most people are trying to sleep, and some of these would-be-sleepers are sensitive to noise interruptions. The Bull's Eye decision provides, in part, that "During the season in which firing is allowed, the hours of operation are limited as indicated in Findings of Fact 11 and 12".

The issue before this Commission is whether approval of the Project will create undue air pollution. Nearly the entire Phase 1 of the LVRT is already being used by snowmobiles operating on the existing rail trail, and approximately 60% of the entire LVRT Project trail (i.e. Phase 1, 2 and 3) is in use. The question involves whether or not the additional impacts would create adverse health effects. To give concrete examples, parties Kate Scarlott and Rob MacLeod testified that the trail in front of their house is currently used by snowmobiles, and parties Bruce and Molly Markwell testified that the segment of rail bed near their home is not currently used by snowmobiles. The issue before this Commission is not whether a current use (or lack thereof) causes adverse health effects; rather it is whether the LVRT Project will cause such effects.

Vermont has established noise standards that snowmobiles must comply with in order to operate in Vermont. The rules promulgated under 23 V.S.A., Chapter 29 § 3205 (d) dictate that all snowmobiles operating in Vermont cannot exceed a decibel level of more than 73 db at 50 feet; a level less than that of a lawnmower (90 db). There are fines up to \$500 if this law is violated. Moreover, snowmobiles are manufactured to specific standards that are imposed by the Environmental Protection Agency.

Testimony claiming that noise from snowmobiles causes adverse health effects was introduced by Les Blomberg, the expert called by adjoining landowners Kate Scarlott and Rob MacLeod. Les Blomberg did not measure equivalent noise impacts of snowmobiles as set forth under Act 250 caselaw. Les Blomberg argued that Vermont has adopted a standard that human health is impacted where instantaneous noise levels are above 70 dBA. Instantaneous noise emission is not the noise standard in Vermont under Criterion 1. 70 dBA is the standard for equivalent noise, and snowmobiles on the LVRT will not exceed that level. Just as in *Bull's Eye*, in this case "only if the neighbors were at the boundary lines continuously would there be a potential for any adverse health effects" associated with hearing effects. Due largely to the intermittent and dispersed nature of the snowmobile-related noise emissions on the LVRT Project, noise

emissions do not give rise to an adverse health effect of the type associated with hearing effects, i.e. loss of hearing due to exposure to noise.

To re-state, under *Bull's Eye*, noise “is considered air pollution where its occurrence may cause adverse health effects. The test for undue air pollution caused by noise is whether the noise has impacts rising above annoyance and aggravation to cause adverse health effects such as hearing damage”. This wording (specifically, the words “such as”) suggest that loss of hearing is but one type of health effect cognizable under Criterion 1. Other types of health effects may also be considered.

In the present case, opponents allege that the LVRT Project creates an adverse health effect due to loss of sleep from night-time noise interruptions associated with snowmobile operation, in particular curfew violators. Opponents Kate Scarlott and Rob MacLeod have testified that they experience sleep interruptions and sleep loss when snowmobile curfew violations occur, and their noise expert Les Blomberg has testified that loss of sleep is an adverse health effect pursuant to World Health Organization standards.

The Applicants have identified that the LVRT Project does not include operation of snowmobiles between 11 PM and 6 AM, that a system of signage, policing and enforcement will be used to monitor and control compliance with these hours of operation, and that the existing usage has generated only a small number of complaints. Kate Scarlott and Rob MacLeod, and others (notably Charles Emers and Anne McPherson), have testified that existing policing and enforcement systems are not always effective in enforcing rules for motorized users, including hours of operation (curfew).

The related question before the Commission is: will the LVRT Project create undue air pollution in the form noise, such that an adverse health effect results?

The LVRT Project is projected to cause a significant increase in snowmobile traffic, however the exact increase at any specific location is unknown. With this increase in usage, there will be an general increase in the total scope of noise impact attributable to the recreational trail users. Also the Commission anticipates that there will be an increased risk of curfew violations, and night-time noise from snowmobile users in particular.

The Commission has considered all of the testimony regarding noise and alleged health impact. The Commission understands and appreciates that night-time operation of motorized equipment in otherwise tranquil settings can be intrusive and can create occasional loss of sleep or sleep interruption, particularly for individuals unaccustomed to this noise type. The Commission also understands and appreciates that sleep is a basic health-related need of all people. The impact under Criterion 1 noise (as a potential health risk) is directly related to the hours of operation and the effectiveness of policing and enforcement systems. While the Commission appreciates the World Health Organization noise standard cited by opponents' noise expert Les Blomberg, and the results of the noise monitoring conducted at the residence owned and occupied by Kate

Scarlott and Rob MacLeod, the Commission is not convinced that an actual health impact from noise emissions may or will result from the LVRT Project. The Commission believes that a health impact from noise could be present, for example, if snowmobile usage occurred regularly and all night long; However, this is not the current proposal, and the Commission did not receive information from a qualified medical expert that was specific to the LVRT Project. The Commission also notes that its own experiences living and sleeping in both quiet rural settings, and noisier urban settings, and other varying locations and settings with varying night-time noises, leads the Commission to believe that sleep needs can generally be managed and achieved in a variety of conditions and settings.¹

The Commission notes that the LVRT Project includes a detailed plan which, if followed, will mitigate the potential for health risk, if any, attributable to the seasonal increase in night-time noise from motorized users, notably curfew violators. The LVRT Project as proposed features hours of snowmobile operation of 6:00 am to 11:00 pm daily, December 16 through April 15. The Commission believes that these seasonal hours are reasonable hours to assign to the LVRT Project with respect to Criterion 1 noise emissions and the provision of reasonable quiet hours for sleep needs towards avoidance of an adverse health impact. The Commission notes its expectation that very few snowmobile users will actually use the LVRT Project at 6:00 am, or in the late evening (e.g. 10 p.m.), most recreational users would likely access the trail during the later morning thru earlier evening, when temperatures are warmer. Also, simply for added emphasis, the Commission will require, by permit condition, adherence to the hours of operation stated above by Applicants, in any permit it may issue.

The Commission also notes that it is requiring monitoring of the overall effectiveness of the existing and planned policing and enforcement systems, on an ongoing basis, in any permit it may issue, under Criterion 8, and this includes the right to convene a hearing and impose additional conditions, if needed to mitigate noise emissions based on the results of the monitoring data.

The Commission has also considered the non-noise air emissions associated with the LVRT Project. The Applicant is relying on emission standards established by the Environmental Protection Agency for the snowmobile industry. The Commission has received some information from opponents Scarlott MacLeod about non-noise air emissions and associated health risks; however, this information is based on older non-typical technology and equipment, and the Commission finds that opponents have not submitted sufficiently substantive and sufficiently relevant information concerning actual typical (non-noise) emission-related health risks attributable to the LVRT Project. The Commission will rely on the Environmental Protection Agency standards cited by the Applicant, with regard to air pollutants associated with snowmobile exhaust.

Dust Control

Project construction will follow an Erosion Prevention and Sediment Control Plan (EPSC) as described under Criterion 4 which will ensure that disturbed areas are brought to finished grade and temporarily or permanently stabilized as soon as possible. During construction, water and/or calcium chloride will be used to control dust if necessary. After construction, disturbed areas along the trail will be stabilized in accordance with the trail construction details, including crushed stone surface with grassed shoulders. Long-term stockpiles of soil materials associated with ditch cleanouts will be seeded and mulched. Through the implementation of the construction phase EPSC plan and given the operational phase design of the trail, no significant dust issues are anticipated.

Conclusion of Law, Criterion 1

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 1 for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will not cause undue air pollution. This constitutes a final conclusion of law under Criterion 1 for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 1 for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) will not cause undue air pollution. This constitutes a final conclusion of law under Criterion 1 for the Master Plan (Phase 2 & 3 of the LVRT Project).¹

SECTION 6086(a)(1)(A) HEADWATERS

Criterion 1(A) states in part that “a permit will be granted whenever it is demonstrated by the applicant that, in addition to all other applicable criteria, the development or subdivision will meet any applicable health and environmental conservation department regulation regarding the reduction of the quality of *ground or surface waters flowing through or upon lands which are not devoted to intensive development...*” 10 V.S.A. § 6086(a)(1)(A)(emphasis added).

44. The LVRT Project conforms to applicable requirements of the ANR Vermont Department of Environmental Conservation (ANR DEC) [Exhibits 2, 42; Testimony of J. Nelson]
45. All wetlands located within the right-of-way of the LVRT Project have been identified and wetland protection will be addressed in the erosion prevention and sediment control (EPSC) plans and narrative. [Testimony of J. Nelson]

46. A Vermont State Individual Wetland permit is required for some of the work in or near the wetlands in the LVRT Phase 1 Project. On August 30, 2012, the ANR DEC issued Individual Wetland Permit Number WY12-0004 corresponding to location in Danville, Morristown, and Johnson and including permitted impacts to 4,040 square feet of wetland and 1,860 feet of wetland buffer zone. [Exhibit 76]
47. The LVRT Project complies with the Vermont Wetland Rules, including identification and protection of wetlands. [Exhibit 2, 30, 40, 76]
48. The LVRT Project complies with the applicable ANR standards for treatment of stormwater during and after construction. [Exhibit 2, 76]
49. On August 30, 2012, the ANR DEC issued stormwater discharge authorization number 6852-9015 for discharge of stormwater runoff from applicable portions of the LVRT Phase 1 Project. [Exhibit 76]

Conclusion of Law, Criterion 1(A)

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 1 (A) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will meet applicable health and water resources regulations regarding the reduction of the quality of the ground or surface waters in headwaters areas. This constitutes a final conclusion of law under Criterion 1(A) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 1 (A) for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) will meet applicable health and water resources regulations regarding the reduction of the quality of the ground or surface waters in headwaters areas. This constitutes a final conclusion of law under Criterion 1(A) for the Master Plan (Phase 2 & 3 of the LVRT Project).

SECTION 6086(a)(1)(B) WASTE DISPOSAL

50. Findings under criterion 1(A) are incorporated by reference.
51. The project does not include storage of hazardous materials. [Exhibit 2]
52. The project does not include fuel storage. [Exhibit 2]

53. The project does not involve generation of industrial wastes. [Exhibit 2]
54. No bathroom facilities are proposed as part of the LVRT Project. However, public facilities have been available at numerous businesses and existing public buildings, and it is anticipated that these will continue to be available to users of the trail. [Exhibits 2, 21; Testimony of Alan Robertson]
55. The railroad corridor is built on fill material of various types, which is topped by a layer of crushed rock which is referred to as ballast. The ballast is generally 10 to 12 feet wide at the top and varies greatly in condition. In some areas the ballast is in very good condition, while in others the entire trail has been washed out and there is no ballast left. The LVRT Project will provide a minimum gravel surface width of eight feet with grassed shoulders ranging from two to six feet wide. [Exhibits 2, 30, 40]
56. VTDEC personnel have determined that the proposed LVRT Project activities constitute maintenance, that no expansion or redevelopment of existing impervious surfaces will occur and that therefore the LVRT Project is exempt from operational phase stormwater permitting (where safety realignment is not planned) pursuant to 10 V.S.A. § 1264. [Exhibit 2 at 5]
57. Eight areas where safety realignment of the LVRT are proposed within Phase 1 will result in a small amount of new impervious surface area. ANR DEC has determined that an operational phase stormwater discharge permit is required for treatment of stormwater runoff from these new impervious surface areas. [Exhibit 42; Testimony of J. Nelson]
58. The construction of the LVRT Project will result in greater than one acre of soil disturbance. The actual amount of total disturbed area will be determined subsequently, as part of the National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Discharge Permit application to VTDEC. Phase 1 of the Project will require an individual construction phase discharge permit (NPDES Individual Permit or INDC). The application for this permit will include design of appropriate EPSC measures, known as Best Management Practices (or BMPs), as required by the VTDEC, to prevent soil erosion, appropriately manage construction runoff from the Project site, ensure inspection and maintenance of BMPs and establish prompt stabilization of exposed soils. [Exhibits 2, 32, 40; Testimony of J. Nelson]
59. Contractors will be responsible for disposal of construction debris. During construction, waste disposal will be at a certified waste site. [Exhibits 2, 13, 14]
60. VAST commissioned a scientific study to determine if snowmobile use on heavily traveled snowmobile trails resulted in any demonstrable impact to water quality or soil chemistry, and soils of Vermont. The specific objectives of the snow chemistry study

were to collect and analyze snow, soil, and snowmelt/runoff samples from a monitoring network that represents the most heavily used snowmobile trails in Vermont, perform statistical analysis of these data, and provide a scientifically valid conclusion about the impact, if any, that snowmobile use has on snowpack, soil, and runoff chemistry at the sites evaluated. The general design of this study was based on an investigation conducted by the USGS at Yellowstone National Park and other locations (Ingersoll 1998, Arnold and Koel, 2006). [Exhibit 2]

61. Prior to the commencement of the study, VHB developed a Quality Assurance Project Plan (QAPP), which was approved by the United States Forest Service as well as the United States Fish and Wildlife Service. Both of these government agencies were involved with the selection of test sites, as well as the testing methodology and the design of the study. [Exhibit 2]
62. The Snowmobile Trail Chemistry Study Report was issued on 24 August 2010. The results of that Study were conclusive, indicating that snowmobile traffic on highly used Vermont Snowmobile Trails poses no threat to the quality of water or soils. [Exhibits 2, 15; Testimony of J. Nelson]
63. Applicants have agreed to include signs at trailheads regarding litter, including messages of “Leave no trace” and “Pack out your trash.” [Exhibit 34]

Conclusion of Law, Criterion 1(B)

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 1 (B) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will meet any applicable health and environmental conservation department regulations regarding the disposal of wastes, and will not result in the injection of waste materials or harmful or toxic substances into groundwater or wells. This constitutes a final conclusion of law under Criterion 1(B) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission is unable to reach a positive conclusion of law under the entirety of Criterion 1(B) for the Master Plan (Phase 2 & 3) because there is not yet sufficient evidence to support such a conclusion. For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) will meet applicable health and environmental conservation department regulations regarding the disposal of wastes, and will not result in the injection of waste materials or harmful or toxic substances into groundwater or wells, excepting in the case of disposal of construction phase stormwater runoff. The Commission will require that future application(s) for construction of the

Phase 2 and Phase 3 components of the LVRT Project include information on disposal of stormwater runoff during construction. The Commission cannot make a final affirmative conclusion of law under Criterion 1(B) for the Master Plan (Phase 2 & 3). The Commission's partial findings of fact and conclusion of law under Criterion 1(B) for the Master Plan (Phase 2 & 3 of the LVRT Project) is valid for a five year period.

SECTION 6086(a)(1)(C) WATER CONSERVATION:

64. The LVRT Project does not involve use of water. [Exhibit 2, 30]

Conclusion of Law, Criterion 1(C)

For the reason set forth above, the Commission concludes that all phases of the LVRT Project (Phase 1 and Master Plan) will not have any impact under Criterion 1(C) as there will be no water used. This constitutes a final conclusion of law under criterion 1(C) and is valid for a five year period.

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 1 (C) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will not have any impact under Criterion 1(C) as there will be no water used. This constitutes a final conclusion of law under Criterion 1(C) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 1 (C) for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) will not have any impact under Criterion 1(C) as there will be no water used. This constitutes a final conclusion of law under Criterion 1(C) for the Master Plan (Phase 2 & 3 of the LVRT Project).

SECTION 6086(a)(1)(D) FLOODWAYS:

65. Based on an examination of existing floodplain mapping of the LVRT corridor, the existing Lamoille Valley Railroad (LVRR) corridor passes through areas of floodplain between St. Johnsbury and Swanton. These areas are restricted to locations where Federal Emergency Management Agency (FEMA) Flood Insurance Studies previously have been conducted. In general, improvements within the Project are mostly repairs, upgrades or replacements in-kind of structures that currently exist, or at one time existed, and no increase in volume within the floodplain is anticipated as a result of the proposed Project work. Local and state regulations will require a minimal level of

review and/or permitting to confirm that these activities are not new encroachments in the floodway. [Exhibits 2, 16; Testimony of J. Nelson]

66. A review of LVRT Phase 1 construction plans provided concluded that there are 14 locations along Phase 1 of the LVRT where new construction, or more substantial work, is proposed within Special Flood Hazard Areas (SFHA). VHB concluded that construction of Phase 1 of the LVRT will not result in any changes to flood elevations within the SFHAs and would be consistent with NFIP regulations. [Exhibit 33; Testimony of J. Nelson]
67. The Vermont Agencies of Natural Resources and Transportation have previously received approval for the completion of eleven Floodplain Restoration Projects (FRPs) along the LVRR in accordance with Land Use Permits #5L1477 and 5L1477-1. These sites are located in the towns of Bakersfield, Cambridge, Fairfield, Fletcher, Johnson, and Wolcott. The intent of the FRPs is to restore access by flood waters to natural floodplain areas and thereby restore functions such as flood flow attenuation and trapping of sediment and nutrients by removing fill material associated with the elevated railroad embankment. At this time, all 11 of the FRPs have been completed. The proposed LVRT trail construction will not interfere with any existing or proposed FRPs. [Exhibits 2, 16, 17; Testimony of J. Nelson]
- 68.____ The Applicants have demonstrated that the LVRT Phase 1 Project (i) will not restrict or divert the flow of flood waters and endanger the health, safety and welfare of the public during flooding and (ii) will not significantly increase the peak discharge of any river or stream. The Applicants will obtain a Flood Plain Clearance permit from Vermont Agency of Natural Resources, Department of Environmental Conservation (DEC). [Exhibits 2, 43, 76; Testimony of J. Nelson]

Conclusion of Law, Criterion 1(D)

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 1 (D) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will be located in a floodway or floodway fringe. The Commission further concludes that the Phase 1 Project will not restrict or divert the flow of flood waters nor significantly increase the peak discharge of a river or stream. This constitutes a final conclusion of law under Criterion 1(D) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission is unable to reach a positive conclusion of law under the entirety of Criterion 1(D) for the Master Plan (Phase 2 & 3) because there is not yet sufficient

evidence to support such a conclusion. For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) will be located in a floodway or floodway fringe. The Commission further concludes that the Master Plan (Phase 2 & 3) includes significant restoration of existing floodplain impacts attributable to the historic rail line, and should therefore represent a net final reduction in floodplain impact, pending review of the preliminary design plans for Phase 2 and Phase 3. The Commission will require that future application(s) for construction of the Phase 2 and Phase 3 components of the LVRT Project include the preliminary plans so that the Criterion 1(D) review can be concluded. The Commission cannot make a final affirmative conclusion of law under Criterion 1(D) for the Master Plan (Phase 2 & 3). The Commission's partial findings of fact and conclusion of law under Criterion 1(D) for the Master Plan (Phase 2 & 3 of the LVRT Project) is valid for a five year period.

SECTION 6086 (a)(1)(E) STREAMS

69. Findings under criterion 1(A) are incorporated by reference.
70. All existing stream and river crossings associated with the LVRT Project are shown on the conceptual and preliminary plans. The LVRT Project does not involve any new crossings of streams or wetlands. However, there are numerous locations where previous structures have deteriorated or are no longer present. These prior crossings will be repaired or replaced as needed in order to restore the connectivity of the entire LVRT Project. This work will be planned in coordination with ANR and in conformance with applicable permits. [Exhibits 2, 12, 30]
71. Stream crossings on the proposed LVRT are regulated by the ANR and the US Army Corps of Engineers (USACE). Pursuant to Section 404 of the Clean Water Act, the USACE regulates impacts to waters of the United States in Vermont, including stream crossing structures under General Permit NAE-2007-24 (GP) issued for Projects in Vermont in December of 2007. [Exhibit 2; Testimony of J. Nelson]
72. While the LVRT Project as a whole is anticipated to be considered Category 2 by USACE under the General Permit, for the purposes of VTDEC review pursuant to Section 401 review, the proposed stream crossing activities would individually fall under both Category 1 and Category 2. Stream crossings with Category 2 actions would require additional review, beyond the USACE Section 404 permit application, by VTDEC. Based on the definition of Category 2 activities as defined in the General Permit, and the proposed action for existing stream crossing structures, including substantial repair, replacement and excavation work at locations on streams with watershed larger than one square mile, a subset of 7 bridges and three culverts were selected as potentially requiring additional review by the ANR. VTDEC Engineers have reviewed this list of structures and the methodology used to generate the list. VTDEC

has indicated that the application for approval for stream crossing structures form would be appropriate for the 10 structures selected. [Exhibits 2, 18]

73. The EPSC plans and narrative to be prepared for the Phase I activities as a component of the Construction Stormwater permit application to VTDEC will depict and describe all of the best management practices to be employed during Project construction to protect streams and other natural resources. [Exhibits 2, 42, 44]
74. After comprehensive review and field verification of the LVRT Phase 1 Project, the ANR (via the Stream Alteration Engineer, Water Quality Division) has determined that the Project is eligible for processing as "Non-Reporting" under the available Stream Alteration Permit, which is a general permit. This determination is based on adherence to four stated conditions, and the Project will comply with these conditions. [Exhibit 2, 76]
75. The LVRT Project does not involve the construction of a permanent dam or the withdrawal of water from a stream, river, pond or lake. [Exhibit 2]

Conclusion of Law, Criterion 1(E)

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 1 (E) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will maintain the natural condition of streams and will not endanger the health, safety, or welfare of the public or of adjoining landowners. This constitutes a final conclusion of law under Criterion 1(E) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission is unable to reach a positive conclusion of law under the entirety of Criterion 1(E) for the Master Plan (Phase 2 & 3) because there is not yet sufficient evidence to support such a conclusion. For the reasons set forth above, the Commission concludes that streams and existing stream impacts have been identified for the Master Plan (Phase 2 & 3) and the Master Plan (Phase 2 & 3) is expected to maintain the natural condition of streams, pending review of the preliminary design plans for Phase 2 and Phase 3. The Commission will require that future application(s) for construction of the Phase 2 and Phase 3 components of the LVRT Project include the preliminary plans so that the Criterion 1(E) review can be concluded. The Commission cannot make a final affirmative conclusion of law under Criterion 1(E) for the Master Plan (Phase 2 & 3). The Commission's partial findings of fact and conclusion of law under Criterion 1(E) for the Master Plan (Phase 2 & 3 of the LVRT Project) is valid for a five year period.

SECTION 6086(a)(1)(F) SHORELINES:

76. The LVRT Project crosses the Lamoille River, the Wild Branch, the Missisquoi River and the Black Creek Branch. To meet the Project purpose of restoring trail connectivity, these crossings must be maintained or restored. The proposed repairs and renovations to Bridge # 68 over the Lamoille River in Cambridge is part of the Phase 1 plans. [Exhibits 2, 31, 40]
77. The existing railroad corridor has been in its present location for many years. The LVRT Project utilizes the existing rail corridor, which in places is close to or crosses a river and the river shoreline. The LVRT Project does not interfere with any existing public access to the water bodies which feature a shoreline. The LVRT Project will improve accessibility to public waters. [Exhibit 2]
78. The LVRT Project is a recreation trail along an existing transportation corridor. The LVRT Project will not involve any new shoreline development activity as the LVRT Project is an existing trail. [Exhibits 2, 30]

Conclusion of Law, Criterion 1(F)

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 1 (F) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project involves work in an existing corridor that is partially located on or near a shoreline to be maintained in its existing or natural condition, will allow continued access to the shoreline, will retain or provide vegetation which will screen the Project from the waters, and will include stabilization of banks from erosion, as necessary, with vegetation cover. This constitutes a final conclusion of law under Criterion 1(F) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission is unable to reach a positive conclusion of law under the entirety of Criterion 1(F) for the Master Plan (Phase 2 & 3) because there is not yet sufficient evidence to support such a conclusion. For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) involves work in an existing corridor that is partially located on or near a shoreline to be maintained in its existing or natural condition; that these river shorelines have been identified, and that the Phases 2 and 3 components of the Project are expected to comply with Criterion 1(F), pending review of the preliminary design plans for Phase 2 and Phase 3. The Commission will require that future application(s) for construction of the Phase 2 and Phase 3 components of the

LVRT Project include the preliminary plans so that the Criterion 1(F) review can be concluded. The Commission cannot make a final affirmative conclusion of law under Criterion 1(F) for the Master Plan (Phase 2 & 3). The Commission's partial findings of fact and conclusion of law under Criterion 1(F) for the Master Plan (Phase 2 & 3 of the LVRT Project) is valid for a five year period.

SECTION 6086(a)(1)(G) WETLANDS

79. Findings under criterion 1(A) are incorporated by reference.
80. Wetlands were delineated according to the Corps of Engineers Wetlands Delineation Manual (1987) during 2008. [Exhibit 2; Testimony of J. Nelson]
81. Many proposed activities, including maintenance activities such as cleaning out ditches, removing vegetation, culvert and bridge repair, and maintaining the rail-bed will be completed as allowed uses under Section 6.12 of the Vermont Wetland Rules, as long as the proposed work does not constitute substantial expansion or modification in a wetland or a buffer, or the structures were in existence as of February, 1990. Since both of these conditions are met with respect to the LVRT, the Project would generally be considered an allowed use. [Exhibit 2; Testimony of J. Nelson]
82. Applicants are relying on the Vermont State Individual Wetland Permit for the LVRT Phase 1 Project and will be relying on a Vermont State Wetland Permit for the entire LVRT Project (Phase 1, 2 and 3). [Exhibits 2, 76, Testimony of J. Nelson]

Conclusion of Law, Criterion 1(G)

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 1 (G) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will not violate the Water Resources Board Rules relating to significant wetlands. This constitutes a final conclusion of law under Criterion 1(G) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission is unable to reach a positive conclusion of law under the entirety of Criterion 1(G) for the Master Plan (Phase 2 & 3) because there is not yet sufficient evidence to support such a conclusion. For the reasons set forth above, the Commission concludes that wetlands have been identified for the Master Plan (Phase 2 & Phase 3), and it is expected that the Master Plan (Phase 2 & 3) can comply with the Water Resources Board Rules relating to significant wetlands, pending review of the preliminary

design plans for Phase 2 and Phase 3. The Commission will require that future application(s) for construction of the Phase 2 and Phase 3 components of the LVRT Project include the preliminary plans so that the Criterion 1(G) review can be concluded. The Commission cannot make a final affirmative conclusion of law under Criterion 1(G) for the Master Plan (Phase 2 & 3). The Commission's partial findings of fact and conclusion of law under Criterion 1(G) for the Master Plan (Phase 2 & 3 of the LVRT Project) is valid for a five year period.

SECTION 6086(a)(2 & 3) WATER AVAILABILITY AND IMPACT ON EXISTING SUPPLY

83. The LVRT Project does not include utilization of water for domestic, commercial, or industrial needs. [Exhibits 2, 30]
84. The LVRT Project does not include development of new on-site wastewater disposal systems. [Exhibits 2, 30, 40]
85. No evidence concerning potential for impact to an existing water supply was received.

Conclusion of Law, Criteria 2 & 3

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criteria 2 & 3 for the Phase 1 Project. For the reasons set forth above, the Commission concludes that these Criteria are satisfied and that the Phase 1 Project will not place any burden on an existing water supply. This constitutes a final conclusion of law under Criteria 2 & 3 for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criteria 2 & 3 for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that these Criteria are satisfied and that the Master Plan (Phase 2 & 3) will not place any burden on an existing water supply. This constitutes a final conclusion of law under Criteria 2 & 3 for the Master Plan (Phase 2 & 3 of the LVRT Project).

SECTION 6086 (a)(4) SOIL EROSION AND THE CAPACITY OF THE LAND TO HOLD WATER:

86. During construction, on site monitoring of the construction contractor's implementation of the erosion prevention and sediment control design plan will be provided by two

layers of qualified personnel (on site pan coordinator and EPSC specialist). [testimony of J. Nelson].

87. The Applicants have developed plans and details for an individual stormwater construction permit for the LVRT Phase 1 project pursuant the applicable Agency of Natural Resources standards. [Testimony of J. Nelson]
88. The LVRT Project will be built entirely within the existing rail corridor with exceptions for a minor realignment at the VT 15 grade-separated crossing in the Town of Walden and where minor realignments may be required at at-grade crossings of State highways. [Exhibit 2]
89. Nearly all of the grading necessary to enable the LVRT is currently in place, with no substantial change to existing topography in the vicinity of the Project required. [Exhibit 2; Testimony of J. Nelson]
90. On February 17, 2012, Preliminary Construction Plans for Phase 1 were filed by the Applicants. These plans include final construction limits and further developed structural and trail construction details. [Exhibit 39]
91. The EPSC plans and narrative to be prepared for the Phase I activities as a component of the INDC application to VTDEC will depict and describe all of the best management practices to be employed during Project construction to protect streams and other natural resources. [Exhibit 2; Testimony of J. Nelson]
92. LVRT Phase 1 construction will begin with the clearing of existing vegetation that has encroached over time onto the rail bed. Vegetation clearing limits will remain within the right-of-way, and extend slightly beyond the existing lateral drainage ditches and thus will vary along the trail. Cleared vegetation will be mulched on site, and used for soil stabilization along the right-of-way. Clearing will be conducted using a combination of hand tools, chainsaws and excavator/tractor-mounted hydraulic brush hogs. [Exhibit 2; Testimony of J. Nelson]
93. Once clearing has occurred, existing lateral ditches will be restored to their original alignment and grades through the removal of accumulated silt. The existing culverts to be replaced will be installed within the width of the existing corridor, and the existing embankments will be restored to their previous condition and widths. During construction, potential waste disposal areas, including side slope wasting and temporary or permanent soil stockpiles will be identified and submitted to VTrans biologists for approval. Buffer areas for streams and wetlands as well as archeological limitations will be applied to avoid unsuitable disposal areas. [Exhibit 2; Testimony of J. Nelson]
94. Work on ballast and trail will commence after the vegetation has been cleared and the drainage ditches have been restored. The existing railroad ballast will be graded and windrowed to allow for the removal of root mass, silt, and other debris that has

accumulated and infiltrated over time. After the ballast is restored, a densely graded material will be applied to the ballast to create a firm and stable granular surface as defined by the Americans with Disabilities Act. [Exhibit 2; Testimony of J. Nelson]

95. Existing soil erosion is found in some locations along the rail trail corridor. These areas of existing soil erosion, and soils exposed during construction of the LVRT Project, will be stabilized according to the specifications and detailed contained in the final EPSC plans. Where indicated, mileposts, appropriate signage, fencing, guardrails and other trailside features will be installed. [Exhibit 2; Testimony of J. Nelson]

Conclusion of Law, Criterion 4

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 4 for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water, and will improve conditions on the existing deteriorating rail trail. This constitutes a final conclusion of law under Criterion 4 for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 4 for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water, and will improve conditions on the existing deteriorating rail trail. This constitutes a final conclusion of law under Criterion 4 for the Master Plan (Phase 2 & 3 of the LVRT Project).

SECTION 6086 (a)(5) TRANSPORTATION:

96. There are multiple accesses to state and public highways along the LVRT Project. [Exhibits 2, 22]
97. There are 26 existing trailhead locations. The Applicants are not proposing any further trailheads in this application. [Exhibits 2, 21; Testimony of B. Watson]
98. The trail design will be based on the VTrans Standard A-79 with a 12-14 foot traveled way including an 8 foot wide graveled path with 2 to 4 foot grassed shoulders. Existing authorized points of access over the railroad (i.e., public highways, farm crossings and non-farm private crossings) will continue to be honored. [Exhibits 2, 22; Testimony of B. Cronin]

99. Signage that will occur along public roads will follow the FHWA Manual on Uniform Traffic Control Devices (MUTCD) and will be addressed through the VTrans project development process. [Exhibit 2]
100. An access permit from the Utilities Unit of the VTrans is not required for the LVRT Project. [Exhibit 2]
101. The municipalities do not require a permit for access onto a town or city highway, for the LVRT Project. [Exhibit 2]
102. The LVRT Project is not a conventional development Project. It is a 93-mile shared-use trail along an old rail bed through often-remote terrain, to be stated on trailhead signage. Users will also be advised via signage that there is no cell phone service for most of the trail length or easy access to emergency vehicles, and therefore users are advised to use good judgment, to follow Vermont's Trail Ethic, and to be prepared in various ways, including first aid, food and water. [Exhibits 2, 25; Testimony of L. McDowell]
103. Approximately two-thirds of the LVRT Project is in use and has been in use as a recreational rail trail for a number of years. As with any popular trail, late-arriving users may find they need to park further away on peak periods, but VTrans and VAST are not aware of any endemic situations of inadequate parking. [Exhibit 2]
104. Summer users generally will access the parking areas using the usual mix of sedans and pick-up trucks, except the occasional horse van, while snow machines are generally transported in a pick-up truck or with a carrier pulled by a pick-up truck. [Exhibit 2]
105. Phase 1 Preliminary Construction plans provide representative details depicting the proposed LVRT trail cross section. Where signage along the trail is proposed, VAST will be responsible for the design and maintenance of such signage (except for state highway crossings, which state route signage will be maintained by the VTrans Districts). Signage that will occur along public roads associated with the LVRT will follow the FHWA Manual on Uniform Traffic Control Devices (MUTCD) and will be addressed through the VTrans Project development process. [Exhibits 2, 40; Testimony of B. Cronin]
106. Many private businesses have found it in their interest to provide hospitable parking areas for snowmobilers and other users. [Exhibit 2]
107. The purpose of the LVRT Project is to create greater connectivity and safer conditions for users of the trail. For example, it is expected that Vermont bike touring companies will be attracted to going from one town to another bicycling along the quiet LVRT rather than having a group along the public highways, with trucks, etc. [Exhibit 2; Testimony of L. McDowell]

108. The LVRT Project involves rail-to-trail usage of an existing railroad corridor. [Exhibit 2]
109. Nine re-alignments of state road crossings in LVRT Phase 1 are required due to VTrans line-of-sight requirements. [See Exhibit 40; Testimony of B. Cronin]
110. Snowmobile use is allowed during the legal Open Season, December 16 through April 15, from 6:00 a.m. through 11:00 p.m., and with a speed limit of 35 mph. [Exhibit 2; Testimony of B. Watson; 23 V.S.A § 3206(20) and (23); Exhibit 6]. The late evening hours of operation could be modified in the future by the Commission, in select locations, as identified under Criterion 8, based on the results of post-construction monitoring.
111. The Vermont Agency of Transportation (VAOT) has reviewed the project plans and is a co-applicant. [Exhibit 1]
112. The LVRT Project will enhance the existing rail trail and its many non-vehicular forms of transportation including pedestrian and bicycle. [Exhibit 2]

Conclusion of Law, Criterion 5

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 5 for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will generally improve traffic safety related to the existing deteriorating rail trail, and will not cause unreasonable congestion or unsafe conditions with respect to transportation. This constitutes a final conclusion of law under Criterion 5 for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 5 for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) will generally improve traffic safety related to the existing deteriorating rail trail, and will not cause unreasonable congestion or unsafe conditions with respect to transportation. This constitutes a final conclusion of law under Criterion 5 for the Master Plan (Phase 2 & 3 of the LVRT Project).

SECTION 6086(a)(6) EDUCATIONAL SERVICES:

113. The existing rail trail and the LVRT Project provide a safe destination for field trips and school programs and Vermont Youth Conservation Corps training, and contributes to

the Safe Pathway to School program. The LVRT Project passes through communities which have schools near or adjacent to the trail. Completion of the trail will provide the opportunity for children of these communities to walk or bike to school (or to use a snowmobile in the winter months) instead of traveling on crowded or dangerous roads. These communities include St. Johnsbury, Danville, Hardwick, Morrisville, Hyde Park, Johnson, Highgate and Swanton. [Exhibit 2]

114. The LVRT Project is not residential and does not involve the creation of jobs, therefore no school age children will result from the Project. [Exhibit 2]

Conclusion of Law, Criterion 6

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 6 for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will provide educational opportunities, and will not place an unreasonable burden on the ability of the municipalities to provide educational services. This constitutes a final conclusion of law under Criterion 6 for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 6 for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) will provide educational opportunities, and will not place an unreasonable burden on the ability of the municipalities to provide educational services. This constitutes a final conclusion of law under Criterion 6 for the Master Plan (Phase 2 & 3 of the LVRT Project).

SECTION 6086(a)(7) MUNICIPAL SERVICES:

115. Findings under criterion 1 are incorporated by reference.
116. The existing rail trail is in operation in Phase 1, and in some portions of Phase 2 and 3, and no municipal service problems have been reported by the municipalities through which the LVRT Project crosses. [Exhibit 2]
117. The LVRT Project includes new bridges which will be decked to support an ambulance. Regarding accessibility to the LVRT Project for rescues, the average distance between public crossings of the 93-mile trail is just under one mile, and there are total 95 public accesses/crossings of the LVRT Project. [Exhibits 2, 34]
118. All LVRT Project access signs will specifically warn users that they may be entering an area of no cell phone service and that they should be prepared to meet emergencies.

[Exhibits 2, 34]

119. A Cooperative Law Enforcement Agreement between VAST, the State of Vermont, Departments of Public Safety, State Policy and Fish & Wildlife – Law Enforcement Division, and the Vermont Sheriff’s Association is in force. [Exhibits 2, 18]
120. The existing rail trail is in use for snowmobiling along approximately 60% of its length and VAST is unaware of any need of rescue service related to this use, to date. [Exhibit 2; Testimony of B. Watson]
121. The LVRT Project provides a means of access to a non-user of the trail located in the vicinity of the trail, and in need of emergency medical attention, such as a farmer, logger, canoeist or kayaker, cross-country skier or hiker. This means of access will in some case be quicker than alternative means of access without the LVRT Project. [Exhibit 2]
122. On October 12, 2011, all municipalities were sent a letter and Municipal Impact Questionnaire. [Exhibit 39 (Corres. of February 17, 2012, Attachment 1)]. Several follow-up attempts were made to obtain the completed Questionnaires. [Exhibit 39] No Town indicated that the LVRT Project would have a negative impact on its ability to provide services. [Exhibits 39, 50]
123. Letters of support for the project were received from the Northwest Regional Planning Commission, the Village of Hyde Park, the Town of Morristown, the Town and Village of Johnson, and the Lamoille County Planning Commission. [Exhibits 52, 57, 63, 64, 65, 66, 67]
124. Kate Scarlott and Rob MacLeod own land located adjacent to the existing rail trail and have reported problems with snowmobile usage on the rail trail near their homes, involving speeding, noise, trespass, curfew violations, not stopping at road crossings, inadequate signage, ATV trespass, etc. Scarlott and MacLeod also report that they have followed the procedures for complaints provided in the LVRT Management Plan, including submittal of written complaints with the LVRT Committee (“LVRTC”), by phone with the Sheriff, as well as directly to VAST and VTrans, with mixed and inadequate response and no final effective solution to the problem. [Testimony of K. Scarlott]
125. Use of motorized equipment on the trail will be limited to use of snowmobiles in winter months; occasional needs related to rescue response (e.g. ambulance); and potential occasional use by persons with disabilities pursuant to the Americans with Disabilities Act. The LVRT Project specifically excludes usage of All Terrain Vehicles (ATV's), excepting at limited existing crossings approved by the State of Vermont.

126. Some owners of homes located near the LVRT Project are concerned that unauthorized motorized usage (snowmobiles and ATV) will increase with the LVRT Project for which there will be no effective enforcement. [Testimony of Rob MacLeod and Barry Cahoon]
127. Franklin County law enforcement currently has a “do not pursue” policy which makes enforcement of ATV and snowmobile trespass very difficult for law enforcement [Testimony of Bryant Watson]. The LVRT Project is not located in Franklin County.

Discussion, Criterion 7

The Applicants have identified that the LVRT Project will not place an unreasonable burden on the ability of the local governments to provide municipal or governmental services. Each municipality was notified about the project and no municipality identified that it may be burdened. Opponents have raised questions about the overall effectiveness of Applicant's plan for policing the LVRT Project, as this relates to their individual experiences near the LVRT Project. The Commission understands that opponents are concerned that policing will be lacking and ineffective thus result in greater impacts. However, the burden of proof is on opponents and opponents have not sufficiently demonstrated that an adverse impact on municipal service may or will result.

The Commission notes its discussion and conclusion under Criterion 8, whereby it is requiring completion of ongoing monitoring of the existing and planned policing and enforcement systems, and submittal of monitoring results. Also the Commission is reserving the right to convene a hearing and impose additional conditions, if needed to mitigate noise emissions under Criterion 8. The mitigation that the Commission is requiring under Criterion 8 could have an implication for local law enforcement, i.e. could change the LVRT Project impact under Criterion 7. The Commission notes that if a hearing is convened under Criterion 8, then each Town will be notified and would then have an opportunity to submit relevant information.

Conclusion of Law, Criterion 7

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 7 for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will not place an unreasonable burden on the ability of each municipality to provide municipal or governmental services. This constitutes a final conclusion of law under Criterion 7 for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 7 for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission

concludes that the Master Plan (Phase 2 & 3) will not place an unreasonable burden on the ability of each municipality to provide municipal or governmental services. This constitutes a final conclusion of law under Criterion 7 for the Master Plan (Phase 2 & 3 of the LVRT Project).

SECTION 6086 (a)(8) AESTHETICS, SCENIC BEAUTY, HISTORIC SITES AND NATURAL AREAS:

128. Findings under criterion 1, 1(E), and 1(G) are incorporated by reference.
129. The St. Johnsbury & Lake Champlain Railroad Company (SJ&LC) was constructed in the 1870s, and most recently operated as the Lamoille Valley Railroad; its right-of-way is to become the LVRT. [Exhibit 2]
130. When the SJ&LC was built, many of the culverts, cattle passes, and some bridges were constructed using laid up cut granite or cut-to-dimension fieldstone. Some of these structures are very impressive, and have arched ceilings joining the sidewalls. Most of the steel bridges over streams and rivers were installed during the early 20th Century. Some of these structures are historic in nature and add to the natural and scenic beauty of the mountains and valleys through which the LVRT will pass. [Exhibit 2]
131. Over the years, many of these structures were neglected and poorly maintained. Moreover, it is currently difficult for people to observe the true beauty of these structures in some locations. Upon its completion, the LVRT Project will address many of the maintenance issues, and the Project will make it possible for the public and users of the trail to appreciate and enjoy the history that will be uncovered, as well as the scenic and natural beauty of this great Vermont treasure. [Exhibit 2]
132. None of the areas through which the SJ&LC passed would be considered rare or irreplaceable natural areas (RINAs). However, there are several locations where state-threatened plant species have been found, growing within the existing railroad ballast. The LVRT Project will attempt to have the least amount of impact on these areas as possible, although within certain areas plants will be transplanted off the ballast but within the ROW. While specific locations have been identified, the Vermont ANR Natural Heritage Information Program generally requests that these locations not be identified so as to avoid potential disturbance of the plants. The ANR has issued an Endangered & Threatened Species Takings Permit to address plant relocation [Exhibits 2, 76]
133. This long narrow corridor has been in use as a transportation corridor for at least a century and a half. Approximately two-thirds of the corridor is already in use as a shared recreational trail; with replacement of certain bridges and other repairs as a component of the LVRT Project, the existing corridor will again be a continuous transportation corridor, this time mostly for recreation but also as an alternative to using

highways for travel. This illustrates how the LVRT Project is consistent with existing or planned land uses. See also the excerpts from municipal plans under Criterion 10. [Exhibit 2]

134. A complete inventory of existing cultural resources along the LVRT has been prepared. [Exhibit 33]
135. The materials used for the LVRT Project will be selected to fit within the rural and wilderness context of the trail. Railing, fencing, and other appurtenances will be designed to use natural materials to not disrupt the natural setting of the trail. [Exhibits 25, 26]
136. The LVRT Project will be a multiple use recreation trail, open to many forms of recreation, including use by snowmobiles between the dates of December 16 and April 15 each winter between the hours of 6:00 AM through 11:00 PM daily. [Exhibit 2] The late evening hours of operation could be modified in the future by the Commission, based on the results of post-construction monitoring.
137. All recreation uses will be governed by the LVRT Management Plan, adopted in December 2009 by VTrans and VAST, in addition to the terms and conditions of any permit the Commission may issue. [Exhibits 2, 23]
138. The LVRT Management Plan establishes procedures for: conflict and dispute resolution, for citizen concerns, requests and complaints; law enforcement activities; and includes a process by which adjoining landowners can request the relocation of winter snowmobile use. [Exhibits 2, 23]
139. Of the 660+ adjoining landowners who received notice of the LVRT Project and 39 statutory parties (with copies provided to 18 Town Clerks), only a small number of individuals raised concerns regarding impacts under Criterion 8 at the Act 250 hearings. None of the 39 statutory parties raised concerns under Criterion 8.
140. Kate Scarlott testified that she is concerned about curfew violations on the trail, and that the existing rail trail was heavily used during the 2011-2012 season. Laird MacDowell testified that Kate Scarlott reported one curfew violation to VAST during the 2011-2012 winter season, and this was the only curfew violation reported along the existing rail trail for the 2011-2012 winter season. [Testimony of K. Scarlott; testimony of L. McDowell].
141. Kate Scarlott and Rob MacLeod own and occupy a rural farm in Walden located near the LVRT Project (Phase 3). The farmhouse occupied by Kate Scarlott and Rob MacLeod is located along a relatively remote and quiet country road, typical of quiet picturesque quintessential Vermont back road. Rob MacLeod testified that vehicle traffic consists of typical total 20 cars per day. The area is characterized by scenic open

spaces, forested areas, farms with outbuildings and animals, and very low density housing. The traditional style farmhouse occupied by Kate Scarlott and Rob MacLeod is located in relative close proximity to the existing rail trail and the LVRT Project, and in similar close proximity to the public road (town road) which provides access to the property. The existing rail trail and the LVRT Project feature a crossing which is also in close proximity to the occupied farmhouse. Kate Scarlott and Rob MacLeod are concerned about adverse noise and aesthetic impacts from operation of motorized uses including snowmobiles near their home, and testified that existing law enforcement of existing snowmobile use on the existing rail trail is not effective. [testimony of K. Scarlott and R. MacLeod]

142. Bruce and Molly Markwell own and occupy a house located near the LVRT Project (Phase 3). The home occupied by the Markwells is also located along a public road (state highway Vermont Route 215), and in a moderately scenic area featuring open spaces, forested areas, and low density housing. The rail corridor near the Markwell home is not presently used as a rail trail, and is not currently used by snowmobiles, and the addition of snowmobile usage at this location will be a new activity and will involve new impacts. Data on existing or potential future noise emissions at or near the Markwell property have not been reviewed. Molly Markwell testified that their home is located approximately 10 feet from the rail corridor right of way. [testimony of B. Markwell and M. Markwell]
143. Charles Emers and Anne McPherson own and occupy a residence with small organic farm and home business (bakery) located adjacent to (and in relative close proximity to) the LVRT Project (Phase 2). The area is relatively private but for the presence of the rail corridor nearby, which is used infrequently at present. The farmhouse occupied by Charles Emers and Anne McPherson features a long private driveway, and the area is rural in nature featuring farmland, a nearby river, and very low density housing. Charles Emers and Anne McPherson are concerned about adverse noise and aesthetic impacts from motorized uses near their home, and testified that existing law enforcement of occasional motorized usage on the rail trail is not effective. Data on existing or potential future noise emissions at or near the Emers McPherson property have not been reviewed. [testimony of C. Emers and A. McPherson]
144. Other than the three properties specifically named above (i.e. the three owned and occupied by Kate Scrlott and Rob MacLeod; Bruce and Molly Markwell; and Charles Emers and Anne McPherson) there are no other known properties located in close proximity to the LVRT Project and having sufficiently unique existing aesthetic character and conditions, for which the LVRT Project, notably its use for new or increased snowmobile travel, could be an adverse impact under Criterion 8 as it relates to scenic beauty and aesthetics.
145. Headlights in today's snowmobiles are less intrusive than those installed in today's automobiles; the Society of Automotive Engineers (SAE) establishes automobile

intensity and lumen output. Snowmobile headlights are manufactured to meet the SAE J-280 standard of 18,000-candle power (cp); whereas, automobile headlights are manufactured to meet the SAE J-1383 standard of 40,000 cp, more than twice that of snowmobiles. [Exhibits 2, 24]

146. Today's snowmobiles are cleaner, quieter, and much more efficient than those of the past; both two-stroke and four-stroke engines must comply with applicable federal and state standards. [Exhibit 2]
147. No buildings are proposed as a component of the LVRT Project. If a town or individual wants to build a facility that would serve users of the LVRT on other land, such proposal will need to be evaluated under the applicable regulations. [Exhibit 2]
148. The LVRT Project includes traffic and directional type signage that VAST will be responsible for. Specialized safety signs may be employed near high-traffic public crossings as described under Criterion 5 [Exhibits 2, 35]
149. No lighting is proposed for the Project, except as may be employed for the above described specialized safety signs for high traffic public crossings, and except snowmobile headlights or other occasional nominal lighting associated with non-motorized users (e.g. personal headlamp on pedestrian or bicycle user). [Exhibit 2]
150. Vegetation and slope stabilization for erosion control are the only vegetative landscaping. The LVRT Project will improve the overall existing trail landscape along its corridor. [Exhibit 2]

Criterion 8A – Historic Sites

151. The LVRT Project contains standing buildings or structures which are more than 50 years old. [Exhibit 33 (Cultural Resources Report)] The LVRT Project area is within several villages and cities and among other older buildings. [Exhibit 33]
152. Based on the findings of the Cultural Resources Report, FHWA, VTrans, and VAST have entered into a Programmatic Agreement which governs the treatment and protection of historic resources through the construction of the LVRT Project [Exhibits 2, 27]
153. The LVRT Project is partially located on land that contains or is likely to contain a prehistoric Native American archeological site. [Exhibits 2, 27]
154. A file research found no previously reported archaeological sites in the LVRT Project; however 35 archaeological sites are reported within the 1/2-mile (0.8 kilometers) wide background and literature study area. [Exhibit 2]

155. The prehistoric sites are located on floodplains, first terraces, or second terraces. Deeply buried sites are present in all three settings but, not unexpectedly, most common in the floodplain. There are prehistoric sites with features and most of the latter were hearths. The results of various archaeological studies suggest that both prehistoric and historic archaeological sites will likely be present if: 1) the associated soils are well to moderately well drained; 2) there is proximity to potable water (prehistoric); and 3) there is an established access road in proximity (historic). [Exhibit 2]
156. The results of the background and literature review, the site-visits and archaeological sensitivity assessment are presented in the Phase IA report. The sensitivity assessments rely heavily on environmental variables as the number of previously recorded archaeological sites in the study area is very low. It appears that archaeological sites are present buried in the floodplains and on the first terraces and occasionally present on kame knolls on the terraces. The few upland sites in the sample that are noted are specialized sites like petroglyphs (both historic and prehistoric). [Exhibit 2]
157. VTrans and others have evaluated the potential impact to archaeological sites from the floodplain restoration Projects. These Projects are designed to remove floodplain barriers, including the LVRR ballast, that inhibit the dispersion of flood waters over the active floodplain. It is the opinion of VTrans that these Projects did not require archaeological investigation because there would be no disturbance below the bottom of the embankment. In light of this opinion, further archaeological consideration of VAST's proposed action on the LVRR ballast is not warranted. [Exhibit 2]
158. Wetlands have been identified on or near the LVRT Project site. [Exhibit 30 and Criterion 1(G) above]
159. There are no active necessary wildlife habitat areas within the LVRT Project site. [Exhibit 2]
160. There are no designated rare or irreplaceable natural or fragile areas on or near the Project site. [Exhibits 2, 19]
161. Repair and rehabilitation of Bridge #68 is included in the LVRT Phase 1 Project. This bridge work will require disturbance of the stream bed, resulting in potential impacts to freshwater mussel habitat. A plan has been developed in consultation with ANR to establish the presence or absence of these mussels and to determine recommendations for relocation if applicable. [Exhibit 2, 45, 76; Testimony of J. Nelson]

Discussion and Conclusion, Criterion 8

In evaluating the potential aesthetic impacts of projects under Criterion 8, the Environmental

Court and District Commission apply the protocol established by the Environmental Board in its 1985 decision *Re Quechee Lakes Corp.*, #3W0411-EB and 3W0439-EB, Findings of Fact, Conclusions of Law, and Order at 18 (Nov. 4, 1985) [“EB #254 and EB #255”]. The two questions to be answered under *Quechee* are: 1) Is there an adverse aesthetic effect? and if so 2) is that effect *undue*? Under this Criterion, the burden of proof is on any party opposing the Applicants to show an unreasonable or adverse effect. *See* 10 V.S.A. §6088(b).

The primary issue raised by opponents was whether snowmobiles using the LVRT would have an unduly adverse aesthetic impact. No party presented any evidence regarding allegedly adverse impacts under the criteria excepting impacts related to snowmobile use, and excepting risk of unplanned use of other motorized equipment such as all terrain vehicles (ATVs).

In *Quechee*, the Board framed a fundamental question in determining if a project’s impacts will be adverse: Will the Project be in “*harmony*” with its surroundings and “*fit*” the context within which it will be located? *See Re Quechee Lakes Corp.*, EB #254 and EB #255. Several specific features must be evaluated in answering this question.

What is the nature of the Project’s surroundings? Is the Project to be located in an urban, suburban, village, rural or recreational resort area? What land uses presently exist? What is the topography like? What structures exist in the area? What vegetation is prevalent? Does the area have particular scenic values? Id.

The first issue under this analysis is the nature of the project’s surroundings. The LVRT Project is located along an existing 93 mile long rail-banked corridor, the majority of which is already open to snowmobile use. Approximately 60% of the existing rail trail is currently used by snowmobiles during the winter months, and nearly all of Phase 1 is currently utilized by snowmobiles. Present use is significant because the question of whether an impact is adverse takes into account the present conditions. Kate Scarlott and Rob MacLeod presented evidence that on a given weekend during the most recent winter there were approximately 72 noise events related to snowmobile use on the LVRT where it passes their property. The LVRT Project will not create a new transportation corridor through untouched wilderness, but will improve and formalize an existing trail. In this context, LVRT Project, including the seasonal use of snowmobiles with established hours of operation, is compatible with the project’s present use and surroundings.

Is the Project’s design compatible with its surroundings? Is the architectural style of the buildings compatible with other buildings in the area? Is the scale of the Project appropriate to its surroundings? Is the mass of structures proposed for the site consistent with land use and density patterns in the vicinity? Id.

The LVRT Project is rehabilitation of an existing trail and is compatible with its surroundings. One of the questions of compatibility is whether the *use* of the Project would be compatible. In

this case there would not be a change of use because snowmobiles are an allowed use on the trail as it presently exists. However, there may be a change in impact attributable to an expected increase in usage as a result of the LVRT Project.

As stated by the Vermont Environmental Board in another Act 250 hearing involving a trail approval:

“...[A] change in property use does not necessarily equate with an adverse impact on the aesthetics of an area. The activity must have characteristics that are incompatible with the surrounding values or other area uses for it to create an adverse impact on aesthetics.” Re Sidehill Enterprises, Inc., No. 5L1237-EB, Findings of Fact, Conclusions of Law and Order (June 9, 1998) (emphasis added).

Each nearby property features conditions which are unique to the individual property. The Criterion 8 aesthetic impact, including noise, will be experienced differently at the various locations at or near the LVRT Project along its entire length. Also it is anticipated that there will be an increase in trail usage as the LVRT Project is completed, however the location of the expected increase in usage, including snowmobiles, is unknown. Although the precise increase in the amount of snowmobile use along any given section of the LVRT is impossible to predict, a significant increase could be incompatible with the surrounding values or other area uses. This is particularly true for the segments not in use as a snowmobile rail trail presently, and where the impact of adding snowmobile traffic would be greater than adding this same traffic to a location where snowmobile traffic already exists. An example of this is the property owned by Bruce and Molly Markwell in Walden, which is included in the Phase 3 component of the LVRT Project. It is also noted that the Markwell property is located along a second transportation corridor where motorized vehicles are already operated in proximity of the residence (Vermont Route 215), and this factor should also be given consideration for this particular property; the existing presence of motorized vehicles traveling on Vermont Route 215 reduces the impact of motorized travel on the LVRT Project.

Are the colors and materials selected for the Project suitable for the context within which the Project will be located? Id.

The LVRT Project is consistent with other recreational trails and will not use any colors or materials that would have an adverse impact.

Where can the Project be seen from? Will the Project be in the viewer's foreground, middle ground or background? Is the viewer likely to be stationary so that the view is of long duration or will the viewer be moving quickly by the site so that the lengthy of the view is short? Id.

The LVRT Project is a recreational trail along an existing rail-banked corridor and will not raise

any concerns regarding view or its duration.

What is the LVRT Project's impact on open space in the area? Will it maintain existing open areas, or will it contribute to a loss of open space? Id.

The LVRT Project will not result in any loss of open space.

An essential question before the Commission is whether or not the (additional) volume of snowmobile activity, at any location, will be of such a magnitude as to render the activity out of character with the character which would otherwise exist without the LVRT Project. As discussed under Criterion 1, the snowmobile traffic using the LVRT Project at any specific location along the trail is not exactly known. However, it is expected that usage volumes will increase, and will likely increase significantly following completion of the LVRT Project. Also the Commission anticipates that some segments will be more popular and have greater increased use than others.

In consideration of all factors within the framework of the Queechee analysis of "adverse", the Commission finds that the Phase 1 component of the LVRT Project will not have an adverse aesthetic effect, providing there is compliance with the planned seasonal hours of snowmobile operation (6 a.m. to 11 p.m). Further, the LVRT Project will have an adverse aesthetic impact at select identified locations within the Phase 2 and 3 (i.e. the homes owned and occupied by Kate Scarlott and Rob MacLeod, Bruce and Molly Markwell, and Charles Emers and Anne McPherson). This is because the noisy activity of snowmobiling will not be in harmony with the existing character of the area at these locations.² To summarize, the Commission finds that the Phase 1 Project will not have an adverse aesthetic impact, and the Phase 2 and Phase 3 components of the LVRT Project will have an adverse aesthetic impact.

The Commission emphasizes the following: its conclusion of adverse aesthetic impact at select identified locations in Phase 2 and Phase 3 is based on the Commission's review of the conceptual plans only. The Phase 2 and Phase 3 preliminary plans have not been reviewed. It is very important to note that future final design as presented in the preliminary plans may differ from the design reviewed by the Commission as a component of the conceptual plans. Design enhancements could render the LVRT Project design sufficiently compatible with its surroundings, such that a future Commission may reach a different conclusion regarding "adverse" at the three locations identified in Phase 2 and 3 (i.e. the homes owned and occupied by Kate Scarlott and Rob MacLeod, Bruce and Molly Markwell, and Charles Emers and Anne McPherson).

Although the conclusion of "adverse" may change in the future following review of the preliminary plans for Phase 2 and 3, the Commission will continue its Queechee analysis to provide guidance for the Applicants, and to provide guidance regarding the future determinations of "adverse" and "undue", for the Phase 2 and 3 components of the LVRT Project, notably the three locations specifically identified. The Commission does not need to

continue its evaluation of the Phase 1 component of the LVRT Project because it has concluded that the Phase 1 Project will not have an adverse aesthetic impact..

There are three tests to determine if a Project's adverse impacts will be undue (*See, e.g., Eastview at Middlebury*, 187 Vt. 208, 992 A2d 1014 (2009):

Does the Project violate a clear, written community standard intended to preserve the aesthetics or scenic, natural beauty of the area? Such standards may, for example, be set forth in the local or regional plan or zoning ordinance.

The LVRT Project does not violate any written community standard intended to preserve the aesthetics or scenic, natural beauty of the area. The LVRT passes through 17 towns, and as discussed below under Criterion 10, the majority of Town Plans include specific written statements of support for the LVRT's use as a four-season recreational trail. *See also* Exhibit 2 (Applicant's Schedule B at 32-26). Moreover, a number of these plans recognize snowmobile use as one of the many anticipated uses of the trail. *See, e.g.* St. Johnsbury Town Plan – 2009 (“Snowmobilers will use [the LVRT] during the winter, but they will not have access to the St. Johnsbury bike path.”); Morrisville/Morristown Town Plan – 2008 (“During the winter the corridor will be used for snowmobile activities and during the other seasons for non-motorized recreation (hiking, biking, horseback riding, etc.).”

With respect to the aesthetic impact of noise produced by snowmobiles, there is no written community standard suggesting that snowmobiles are an inappropriate use of the LVRT Project.

Does the Project offend the sensibilities of the average person? The Legislature has directed the Commissions and this Board, composed of lay people from many different communities within Vermont, to determine what is acceptable in terms of new developments' impact on aesthetics and scenic and natural beauty. If our sensibilities are, collectively, offended by a Project, its impact under Criterion 8 is undue. It is not enough that we might prefer to see a different design or style of building, or that we might prefer a different type of land use, but that the Project, when viewed as a whole, is offensive or shocking, because it is out of character with its surroundings, or significantly diminishes the scenic qualities of the area.

For purposes of determining whether the environmental impact of a proposed land use is unduly adverse, the Commission must determine whether the sensibilities of the average person would be shocked or offended by the use, without regard to actual opinions held or opposition shown by the community. *In re McShinsky*, 153 Vt. 586 (1990); *See also In re Petition of Cross Pollination*, 2012 Vt. 29 (2012) (applying *Quechee* test in Public Service Board proceeding). Under this Criterion, the burden of proof is on any party opposing the Applicants to demonstrate an unreasonable adverse effect. 10 V.S.A. §6088(b).

Although a handful of the 660+ LVRT Project adjoining landowners who received notice of the hearings in this case voiced opposition to snowmobile use on the LVRT, no owners of properties located in Phase 1 provided substantive and persuasive argument or evidence as to why the LVRT Project does not satisfy the *Quechee* test. Also much of the testimony in opposition to snowmobile use on the LVRT related to opposition to snowmobile use at a particular location, rather than evidence that snowmobile use would be “shocking or offensive to the average person.”

Within the above-referenced *Quechee* framework regarding the question of “undue”, the Commission concludes that the LVRT Project as a whole does not offend the sensibilities of the average person, however there are three locations in Phase 2 and Phase 3 where the aesthetic impact of the Project may be “undue”, pending review of the preliminary design plans. The Commission will require that future application(s) for construction of the Phase 2 and Phase 3 components of the LVRT Project include the preliminary plans so that the Criterion 8 *Quechee* analysis can be concluded. The Commission cannot make a final conclusion of law under Criterion 8 aesthetics for the Master Plan (Phase 2 & 3).

Has the applicant failed to take generally available mitigating steps that a reasonable person would take to improve the harmony of the proposed Project with its surroundings. If there are reasonable alternatives available to the applicant that would mitigate the adverse impact of the Project, failure to take advantage of those alternatives may, in some circumstances, render undue an otherwise aesthetic impact.

The Commission is considering this application within the context of the National Trails System Act, and further notes that the Commission may not deny a permit, and that Applicants’ Management Plan provides a procedure for conflict and dispute resolution, including where the corridor passes within 100’ of an occupied dwelling. In gaining approval for the Management Plan, VAST went through a year and a half process with public hearings and public input, and the Plan was approved by the Agency of Transportation.

Within the above-referenced *Quechee* framework regarding the question of “undue”, the Commission again concludes that the LVRT Project as a whole does not offend the sensibilities of the average person, however there are three locations in Phase 2 and Phase 3 where the aesthetic impact of the Project may be “undue”, pending review of the preliminary design plans. The Commission notes that the preliminary plans may include design elements which are relevant to the question of mitigation and availability of alternatives.

As noted, the more detailed preliminary design plans for Phase 2 and Phase 3 of the LVRT Project have not yet been submitted or reviewed. In order for the Commission to determine if the Applicant has taken generally available mitigating steps, the Phase 2 and Phase 3 preliminary plans would need to be submitted and reviewed.

For example, if an adverse impact is ultimately found, alternative suitable and potentially available mitigation could also consist of (i) a design solution such as a noise barrier or screening fence, or even a tunnel under a roadway to eliminate a stop condition, the details of which would depend on the site specific conditions and the specific noise impact mitigation required for the particular location and/or (ii) re-alignment of the winter snowmobile usage along an alternate alignment for which seasonal stakes and signage would be placed to direct these users away from the problem area, while keeping the non-snowmobile usage on the existing rail corridor; the Commission anticipates that, with conditions, a seasonal re-alignment of the snowmobile traffic to a new seasonal alignment for snowmobiles only, would involve limited impacts (e.g. if adequately separated from other occupied residences (e.g. 500 feet of separation) and if no major construction (e.g. stream crossing structure) included), such that the snowmobile-only re-alignment would not be a material change for which an Act 250 permit amendment would be needed pursuant to Act 250 Rule 2-c-6; the Commission also notes that any potential future re-alignment of snowmobile traffic, if any, should be arranged on an interim basis, such that this motorized traffic would later return, i.e. default, to resumed snowmobile travel on the rail corridor right-of-way, as conditions may later allow or logically dictate (for example, change in ownership or occupancy, and new owner / occupant does not oppose use of the rail corridor by snowmobiles near his or her home, or a new owner opposes the re-alignment in effect; in these instances snowmobile traffic would simply be returned (or commenced on) the rail corridor right-of-way, and travel on the re-alignment would be abandoned); and/or (iii) reduced hours of snowmobile operation, and/or (iv) some combination of these elements.

The Commission lastly notes that many factors should be included in any future consideration of hours of operations as it relates to noise impacts. These factors include: specific monitoring results; trends if any; specific scope of trail usage; specific noise emissions, including frequency, duration, volume (intensity); changes in technology which may impact monitoring or noise emissions; usage of the neighboring property (only residential buildings with overnight wintertime occupancy should warrant consideration of a noise-related restriction); physical conditions including distances, topography and other conditions which may impact noise travel or attenuation (e.g. building design, placement of windows / bedrooms, etc; LVRT Project design); lastly, consideration of noise impacts in the context of the “average” person’s experience, and not the experience of someone with heightened sensitivities. The future Commission may wish to restrict weekday late evening usage, for example Sunday thru Thursday evenings inclusive (i.e. the evenings when many people go to bed earlier in anticipation of the next workday), with expanded hours allowed on the “weekend” (i.e. Friday and Saturday, the evenings when many people stay up later in anticipation of sleeping later the next morning). This assumes a traditional Monday to Friday daytime job schedule. The Commission also notes that it believes that a 10:00 p.m. cessation of use (on the noted weekday evenings) should allow for typical nearby home occupants to have reasonable quiet and uninterrupted night-time sleep. Further, some consideration should be given in the case of farmers who go to bed early and rise early for morning chores, for which an earlier cessation of motorized use may be warranted, for example in the case of Kate Scarlott and Rob MacLeod.³

The Commission will require that future application(s) for construction of the Phase 2 and Phase 3 components of the LVRT Project include the preliminary plans so that the Criterion 8 Queechee analysis can be concluded. Again the Commission concludes that it cannot make a final conclusion of law under Criterion 8 aesthetics for the Master Plan (Phase 2 & 3).

In addition, the Commission notes that its Criterion 8 aesthetic evaluation of the entire LVRT Project (Phase 1, 2 and 3) is highly dependent on actual noise emissions from motorized activities, adherence to hours of operation including curfew compliance, and effectiveness of policing and enforcement. In order to ensure that Phase 1 impacts remain as planned, the Commission will require monitoring and reporting of snowmobile usage and complaints, in any permit it may issue for Phase 1. This plan shall monitor the overall effectiveness of the policing and enforcement systems, on an ongoing basis, shall include snowmobile traffic volume (usage), in addition to the specific locations and details of complaints received. The Commission will further require that the Applicants submit the monitoring results one year from completion of construction of the Phase 1 project, and within 30 days of a written request from the Commission. Monitoring of the Phase 2 or Phase 3 components of the LVRT Project will not be required of the Applicants, however any Party may monitor these segments, and this information could later be used in evaluating impacts at specific locations in Phase 2 and Phase 3 (i.e. as a component of the future Commission's review of an application for permit to construct Phase 2 or Phase 3). The Commission will also reserve the right to convene a hearing and impose additional conditions, if needed to further mitigate noise emissions under Criterion 8 based on the results of the monitoring data. The planned systems may need enhancement in order to meet the needs of the LVRT Project as it relates to Criterion 8 noise impact attributable to planned or unplanned motorized uses. The monitoring data should be used to determine if there are any general trends, and if the data shows an increase in violations for which new systems are warranted, then these new enhanced systems must then be developed and implemented. The Commission notes that systems will likely change with changes in available technology. Also the Commission believes that policing and enforcement on the LVRT will be a challenge, and it encourages strategic use of technology and people. It may become necessary to create a trail patrol comprised of highly qualified and dedicated members who are property trained in rule enforcement, and who would have a regular and recognizable physical presence on the LVRT and could interact directly with offenders and would-be-offenders on an ongoing and preventive basis, and less in response to problems which rise to the level of complaint. There will always be some offenders, however the key to success lies in effective management which should include a strong deterrent factor.

Queechee Analysis, Conclusion

The Commission concludes that the Phase 1 Project will not have an undue adverse effect on aesthetics and scenic beauty.

The Commission concludes that the Master Plan (Phase 2 & 3) may have an undue adverse

effect on aesthetics and scenic beauty, or may not have an undue adverse effect on aesthetics and scenic beauty. The Commission is not yet able to reach a conclusion regarding impact on aesthetics and scenic beauty, for the Phase 2 and Phase 3 components of the LVRT Project. Additional information is required in order for the Commission to reach a conclusion, as outlined above.

Conclusion of Law, Criterion 8

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 8 for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project, with the inclusion of monitoring and reporting related to noise emissions, as outlined above, will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, or rare and irreplaceable natural areas under Criterion 8. This constitutes a final conclusion of law under Criterion 8 for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission is unable to reach a positive conclusion of law under the entirety of Criterion 8 for the Master Plan (Phase 2 & 3) because there is not yet sufficient evidence to support such a conclusion. Specifically, for the reasons set forth above, the Commission is unable to make affirmative findings under Criterion 8 because it lacks information relevant to the Queechee analysis as outlined above, notably snowmobile noise emissions at three specific locations (i.e. the homes owned and occupied by Kate Scarlott and Rob MacLeod, Bruce and Molly Markwell, and Charles Emers and Anne McPherson). The Commission will require that future application(s) for construction of the Phase 2 and Phase 3 components of the LVRT Project include this additional information for these three locations, so that the Criterion 8 analysis can be concluded; this additional information may be presented in the form of the preliminary plans. The Commission's findings of fact and conclusion under criterion 8 for the Master Plan (Phase 2 and Phase 3 components of the LVRT Project) is valid for a five year period.

SECTION 6086 (a)(8)(A) NECESSARY WILDLIFE HABITAT:

162. No active necessary wildlife habitat areas are located within the LVRT right-of-way. [Exhibit 2]
163. State-threatened endangered plants are found in select locations in the LVRT right-of-way. These plants will be relocated to an alternate suitable location outside of the LVRT right-of-way, pursuant to a Takings Permit #EH-2012-21 issued by the Agency of Natural Resources Natural Heritage Information Program (NHIP). This Permit requires that the transplanted plant specimens be relocated to preserved portions of the

project site that have similar site conditions and in most cases support other occurrences of the same plant species, and that favorable habitat be created for the rare species by cutting adjacent trees and clearing competing vegetation. [Exhibit 76].

164. The entire LVRT Project (Phase 1, Phase 2, and Phase 3) has been reviewed for potential presence of state-listed threatened endangered species. In addition to the plants identified above, and to be relocated, only two locations where these species (or species habitat) may be present were identified, as follows: (i) potential presence of freshwater mussels or its habit at Bridge #68, located in Cambridge within Phase 1, for which a field survey identified that these species are not present; and (ii) potential presence of American Brook Lamprey or its habitat, in the vicinity of Culvert 97B, located in Highgate within Phase 1, where the culvert outfall is obstructed by debris from an embankment washout, and the structure has collapsed for an unknown distance upstream from the outfall, where a field evaluation has not yet been concluded, and where the Applicant has agreed to coordinate its further evaluation with Agency of Natural Resources personnel, and to obtain the required authorization under Title 10, Chapter 123, if found applicable, prior to commencing any activities which may impact this potential species or its habitat (if present). [Exhibit 2, 76]

Conclusion of Law, Criterion 8(A)

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 8(A) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will not destroy or significantly imperil necessary wildlife or endangered species habitat. This constitutes a final conclusion of law under Criterion 8(A) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 8(A) for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) will not destroy or significantly imperil necessary wildlife or endangered species habitat. This constitutes a final conclusion of law under Criterion 8(A) for the Master Plan (Phase 2 & 3).

SECTION 6086 (a)(9) CONFORMANCE WITH THE CAPABILITY AND DEVELOPMENT PLAN:

The Commission concludes that this project conforms to the capability and development plan.

SECTION 6086(a)(9)(A) IMPACT OF GROWTH:

165. The use of the former railroad corridor as a four season recreational and alternative transportation trail is expected to increase with the LVRT Project construction. The expanded use would connect communities along the trail, providing year-round economic and health benefits. The year-round presence of trail users would also improve oversight of the trail and help to discourage illegal dumping, encroachments, and all-terrain vehicle use. [Exhibit 2]
166. The construction of the LVRT Project will have a positive influence on planned community recreation paths located in St. Johnsbury, Morrisville, Johnson, Jeffersonville, Sheldon and Swanton. Potential secondary or indirect impacts associated with these and other pathways would be addressed through the appropriate local, state and federal permits. [Exhibits 2, 29]
167. The Vermont Legislature has taken legislative action endorsing this Project. [Exhibits 2, 5]
168. A National Park Service study revealed that the economic impact of a trail involves a combination of newly created trail-related jobs and the expansion of existing businesses related to travel, equipment, clothes, food, souvenirs and maps. (The Impacts of Rail-Trails, A Study of Users and Nearby Property Owners from Three Trails, National Park Service, Trails and Conservation Assistance Program, 1992). [Exhibit 2]

Conclusion of Law, Criterion 9(A)

The Applicants have demonstrated that the LVRT Project will not significantly affect growth in population for any towns or regions within the Project area and will not place greater financial demands on a municipality or region than either can absorb. The State Legislature has indicated their support of the LVRT Project and the Commission concludes that the LVRT Project will provide interconnection between existing pathways for a greater public use.

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(A) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the municipalities will be able to accommodate the total growth and rate of growth that will result from the Phase 1 Project. This constitutes a final conclusion of law under Criterion 9(A) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(A) for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the municipalities will be able to accommodate the total growth and rate of

growth that will result from the Master Plan (Phase 2 & 3). This constitutes a final conclusion of law under Criterion 9(A) for the Master Plan (Phase 2 & 3).

SECTION 6086(a)(9)(B) PRIMARY AGRICULTURAL SOILS:

169. The United States Department of Agriculture's Natural Resource Conservation Service (NRCS) rates soil map units according to a system which assigns an Agricultural Value Group of 1 through 11 to each soil map unit. Soils in Agricultural Value Group 12 have not been mapped.
170. According to the NRCS rating system, Prime Farmland (Prime) soils are soils in Agricultural Value Groups 1 and 3. Statewide Important Farmland (Statewide) soils are those in Agricultural Value Groups 2, 4, 5, 6, or 7. A few soil map units in Agricultural Value Group 8 in Vermont have been identified as Additional Farmland of Local Importance (Local) soils. These soils have limitations to cultivation that can be overcome. Prime, Statewide, and Local soils are presumed to meet the Act 250 definition of primary agricultural soils (10 V.S.A. § 6001(15)) unless contradicted by other qualifications stated in the definition. USDA Farmland Classification Systems for Vermont Soils.
171. Agricultural soils were evaluated using NRCS soils mapping for the entire LVRT Project alignment. Approximately 549 acres of soils with an agricultural value of 1 to 7 (NRCS) are located within the LVRT right-of-way. [Exhibits 2, 51]
172. A portion of the soils mapped by NRCS may not qualify as primary agricultural soils as defined by Act 250 (10 V.S.A. § 6001(15)) due to the long liner geometry of the project site (the rail corridor right-of-way) and the fact that this corridor has already been partially developed with the existing railroad embankment and related improvements; the generally raised sides of the long, narrow railroad and trail bed are not conducive to cultivation and harvesting as a practical matter. The Agency of Agriculture has indicated its opinion that the project site contains approximately 549 acres of primary agricultural soils within the LVRT right-of-way, as defined by Act 250 (10 V.S.A. § 6001(15)). [Exhibits 2, 51]
173. The LVRT Project includes clearing of vegetation, re-establishment of ditches, replacement of crossing structures, installation of signage, and realignment at some State highway crossings as described under Criterion 1 for safety reasons. [Exhibits 2, 30, 51]
174. Calculations indicated that the LVRT Project will impact 0.13 acres of primary agricultural soils either directly or indirectly, and the Agency of Agriculture has found that 0.0 acres of mitigation is required for this de minimus impact. [Exhibit 51]

175. The LVRT Project includes maintenance or improvement of existing farm crossings. [Exhibit 51]
176. Farmers who farm within the right-of-way may lose some land due to the reestablishment of the drainage network that will follow the trail. This land would have been previously impacted by the original rail bed, and is de minimus. [Exhibit 51]
177. Organic farms are present in some areas adjacent to the LVRT Project. The LVRT Project will avoid use of herbicides unless it is requested to do so by the Agency of Natural Resources or other state agencies to control noxious weeds. [Exhibit 51]

Conclusion of Law, Criterion 9(B)

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(B) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will not significantly reduce the agricultural potential of any primary agricultural soils. This constitutes a final conclusion of law under Criterion 9(B) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(B) for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) will not significantly reduce the agricultural potential of any primary agricultural soils. This constitutes a final conclusion of law under Criterion 9(B) for the Master Plan (Phase 2 & 3).

SECTION 6086(a)(9)(C) FOREST AND SECONDARY AGRICULTURAL SOILS:

178. No secondary agricultural soils or forestry soils have been identified on the project site. [Exhibit 2]

Conclusion of Law, Criterion 9(C)

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(C) for the Phase 1 Project. For the reason set forth above, the Commission concludes that the Phase 1 Project will not significantly reduce the agricultural potential of any secondary agricultural soils or forestry soils. This constitutes a final conclusion of law under Criterion 9(C) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(C) for the Master Plan (Phase 2 & 3). For the reason set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) will not significantly reduce the potential of any secondary agricultural soils or forestry soils. This constitutes a final conclusion of law under Criterion 9(C) for the Master Plan (Phase 2 & 3).

SECTION 6086(a)(9)(D & E) EARTH RESOURCES & EXTRACTION OF EARTH RESOURCES:

179. No mineral or earth resources have been identified on the project site. [Exhibit 2]
180. The LVRT Project design and construction includes cut and fill of earthen materials, but does not otherwise include extraction of earth resources. [Exhibit 2]

Conclusion of Law, Criterion 9(D&E)

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(D&E) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will not involve the extraction of or processing of earth resources or interference with the subsequent extraction or processing of mineral or earth resources. This constitutes a final conclusion of law under Criterion 9(D&E) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(D&E) for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) will not involve the extraction of or processing of earth resources or interference with the subsequent extraction or processing of mineral or earth resources. This constitutes a final conclusion of law under Criterion 9(D&E) for the Master Plan (Phase 2 & 3).

SECTION 6086(a)(9)(F) ENERGY CONSERVATION:

181. The LVRT Project does not include construction of residential or commercial buildings [Exhibit 2]

182. The LVRT project will result in a positive impact on energy conservation by providing improved alternative non-motorized transportation options. [Exhibits 2, 4]
183. The LVRT Project will improve alternative transportation for recreation, work and school. [Exhibit 2]
184. Traffic signage illumination will be solar-powered. [Exhibit 2]

Conclusion of Law, Criterion 9(F)

The Applicants have demonstrated that the LVRT Project reflects the principles of energy conservation. The Project does not involve a residential, commercial or industrial project but will improve the ability of pedestrians and bicyclists to utilize the LVRT – thus reducing dependence on energy use.

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(F) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the planning and design of the Phase 1 Project reflects the principles of energy conservation and incorporates the best available technology for the efficient use or recovery of energy. This constitutes a final conclusion of law under Criterion 9(F) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(F) for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the planning and design of the Master Plan (Phase 2 & 3) reflects the principles of energy conservation and incorporates the best available technology for the efficient use or recovery of energy. This constitutes a final conclusion of law under Criterion 9(F) for the Master Plan (Phase 2 & 3).

SECTION 6086(a)(9)(G) PRIVATE UTILITY SERVICES:

185. The LVRT Project will not disturb existing arrangements for pipe and wire crossings of the railroad corridor. [Exhibit 2]
186. The LVRT Project does not include any new shared private utilities, or any utilities proposed for transfer to the municipality. [Exhibit 2]

Conclusion of Law, Criterion 9(G)

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(G) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the municipalities are protected from having to assume responsibility for the services or facilities, for the Phase 1 Project. This constitutes a final conclusion of law under Criterion 9(G) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(G) for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the municipalities are protected from having to assume responsibility for the services or facilities, for the Master Plan (Phase 2 & 3). This constitutes a final conclusion of law under Criterion 9(G) for the Master Plan (Phase 2 & 3).

SECTION 6086(a)(9)(H) COSTS OF SCATTERED DEVELOPMENT:

187. The existing rail road corridor and the LVRT Project involve a very long and relatively narrow tract of land (the right-of-way) which is physically contiguous to existing settlement or community centers in some locations. [Exhibits 2, 30]
188. The existing rail road corridor and the LVRT Project provide a transportation link to and between existing settlements and town center areas. [Exhibit 2]
189. The LVRT Project does not create new scattered development, it is “re-development” and rehabilitation of the existing transportation corridor. The LVRT Project does not include construction of new buildings or development roadways. [Exhibits 1, 2, 30]

Conclusion of Law, Criterion 9(H)

The Applicants have demonstrated that the LVRT Project is a linear one and involves an existing railroad bed which travels through numerous municipalities and several regions. The Commission has not analyzed the additional costs of public services and facilities caused directly or indirectly by the proposed project versus the tax revenue and other public benefits of the Project such as increased employment opportunities or the provision of needed and balanced housing accessible to existing or planned employment centers, because the Commission does not need to in order to reach its conclusion. The Commission notes that there is a public benefit to upgrade of this existing transportation corridor and rail trail into the LVRT Project.

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(H) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that

the Phase 1 Project is located contiguous to existing settlements. This constitutes a final conclusion of law under Criterion 9(H) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(H) for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) is located contiguous to existing settlements. This constitutes a final conclusion of law under Criterion 9(H) for the Master Plan (Phase 2 & 3).

SECTION 6086(a)(9)(J) PUBLIC UTILITY SERVICES:

190. The LVRT Project does not involve commercial, institution, or industrial use of utilities. [Exhibit 2]

191. All existing governmental and utility crossings will be maintained and all existing utilities usage will be maintained. [Exhibit 2]

Conclusion of Law, Criterion 9(J)

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(J) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will not place an excessive or uneconomic demand on utility services. This constitutes a final conclusion of law under Criterion 9(J) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(J) for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) will not place an excessive or uneconomic demand on utility services. This constitutes a final conclusion of law under Criterion 9(J) for the Master Plan (Phase 2 & 3).

SECTION 6086(a)(9)(K) DEVELOPMENT AFFECTING PUBLIC INVESTMENTS:

192. No public investments which may be adversely impacted by the LVRT Project have been identified. The LVRT Project will not endanger adjacent public investments. [Exhibit 2]

193. The existing state owned rail corridor and rail trail are public investments. There has been degradation of the trail corridor and its infrastructure due to a lack of maintenance,

repair and replacement, which has adversely impacted this public investment. The LVRT Project will restore, maintain, and enhance this public investment. [Exhibit 2]

194. The Vermont Legislature has enacted several pieces of legislation in support of the LVRT Project and a supportive Joint Resolution in its 2011 Session. [Exhibits 2, 4, 5]

Conclusion of Law, Criterion 9(K)

The Applicants have demonstrated that the LVRT Project will have no adverse impact on adjacent public investments. The LVRT Project will restore, maintain, and enhance an existing public investment (existing rail corridor and rail trail). The LVRT Project will improve the function, efficiency and safety of the public's use or enjoyment of, and access to, public facilities and lands. The LVRT Project will restore and secure an existing resource by taking modern measures to reduce soil erosion and increase the protection of the public investment. The existing historical archways will be upgraded so that they are not lost to future generations

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(K) for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project will not unnecessarily or unreasonably endanger the public or quasi-public investment or materially jeopardize or interfere with the function, efficiency, or safety of, or the public's use or enjoyment of or access to any adjacent public facilities. This constitutes a final conclusion of law under Criterion 9(K) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(K) for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) will not unnecessarily or unreasonably endanger the public or quasi-public investment or materially jeopardize or interfere with the function, efficiency, or safety of, or the public's use or enjoyment of or access to any adjacent public facilities. This constitutes a final conclusion of law under Criterion 9(K) for the Master Plan (Phase 2 & 3).

SECTION 6086(a)(9)(L) RURAL GROWTH AREAS:

195. The LVRT Project is not located in a rural growth area. [Exhibit 2]

Conclusion of Law, Criterion 9(L)

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(L) for the Phase 1 Project. For the reason set forth above, the Commission concludes that the Phase 1 Project is not located in a rural growth area as defined by the statute. This constitutes a final conclusion of law under Criterion 9(L) for the Phase 1 Project.

Master Plan (Phase 2 & 3)

The Commission hereby issues a final affirmative conclusion of law under Criterion 9(L) for the Master Plan (Phase 2 & 3). For the reason set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) is not located in a rural growth area as defined by the statute. This constitutes a final conclusion of law under Criterion 9(L) for the Master Plan (Phase 2 & 3).

SECTION 6086(a)(10) CONFORMANCE WITH THE LOCAL OR REGIONAL PLAN:

196. The existing rail trail is located through 17 towns and includes a short section in close proximity to Stannard's town line. Various town plan excerpts have been reviewed for LVRT Project conformance. [Exhibit 2]
197. The St. Johnsbury Town Plan (2009) indicates, in part, that "The Lamoille Valley Railroad recreation trail conversion is already in the works, connecting the Town of Essex to St. Johnsbury via a bike / walking / running pathway. St. Johnsbury will be an ending / starting point. The Lamoille trail will consist of a stay-mat surface. Snowmobilers will use this trail during the winter, but they will not have access to the St. Johnsbury Bike Path". [Exhibit 2]
198. The Danville Town Plan (2009) indicates, in part, that "Recreation opportunities available within the Town of Danville such as [...] and soon to be open Lamoille Valley Railroad recreation trail are available for use by all residents of the region. The town plan recommends enhancement of local recreation opportunities...." [Exhibit 2]
199. The Town of Cabot plan dated 2003 has expired. [Exhibit 2]
200. The Town of Walden does not have a town plan. [Exhibit 2]
201. The Stannard Town Plan (2011) indicates, in part that its "Goal: To maintain and enhance recreational opportunities for Stannard residents and visitors". [Exhibit 2]
202. The Greensboro Town Plan (2007) indicates, in part, that "The Town of Greensboro shall support public access to winter recreation trails and summer hiking trails, including [...] the Lamoille Valley Rail-Trail". [Exhibit 2]
203. The Hardwick Town Plan (2008) indicates, in part, that "Hardwick has many recreational assets which can be used to support a greater tourism and hospitality sector.

The Lamoille Valley Rail Trail should be coming on line in 2008 and the village of Hardwick is at the transition point where the almost level river valley starts to climb over the hills to the Connecticut River valley. This makes Hardwick an excellent location for starting or ending a trip whether it is for a relaxed ride down the valley or a challenging ride over the hill". [Exhibit 2]

204. The Wolcott Town Plan (2008) indicates, in part, that "The Town supports the use of the Lamoille Valley rail corridor as the Lamoille Valley Rail Trail and recognizes the potential for trailheads and trail amenities in town" [Exhibit 2]
205. The Morrisville / Morristown Town Plan (2008) indicates, in part, that "the local stretch of the Lamoille Valley Railroad was opened in December of 1872 [...] VTrans released the state-owned corridor for recreational use [...] with the 98-mile corridor set to be managed by the Vermont Association of Snow Travelers (VAST) as a four-season trail. During the winter the corridor will be used for snowmobile activities and during the other seasons for non-motorized recreation (hiking, biking, horseback riding, etc.)". [Exhibit 2]
206. The Hyde Park Town Plan dated 2005 has expired. [Exhibit 2]
207. The Johnson Town Plan (2012) indicates, in part, that "The conversion of the Lamoille Valley Railroad (LVR) right-of-way into a four-season multi-use trail will provide a continuous connection between all village centers from Hardwick to Jeffersonville [...] The Vermont Association of Snow Travelers will hold a lease on the right-of-way and will be responsible for operating and maintaining the multi-use trail. [...] The Lamoille Valley Rail Trail will intersect the Old Mill Park and pass through the former Talc Mill Property. This 98-mile trail system will wind through the Lamoille Valley bringing a variety of users in different seasons. The Rail Trail will have the added benefit of creating a direct connection between the Long Trail and the village, bypassing VT 15." [Exhibit 2]
208. The Cambridge Town Plan (2008) indicates, in part, that "Cambridge recognizes the value of converting the Lamoille Valley Railroad to a recreation trail". [Exhibit 2]
209. The Fletcher Town Plan (2005 to 2010) indicates, in part, that "The Lamoille Valley Railroad Line (LVRL) no longer runs through East Fletcher, though it was rail banked by the state in 2004. The federal rail banking program reserves the right-of-way for future rail use, if it again becomes feasible, while providing for interim uses such as recreation paths or roads. If this takes place Fletcher will be linked to a network of regional, state and international trails currently under development". [Exhibit 2]

210. The Bakersfield Town Plan (2009) indicates, in part, that "the Lamoille Valley Rail Trail is currently in the planning phase, however this is considered to be a recreational resources, rather than a meaningful transportation option". [Exhibit 2]
211. The Fairfield Town Plan (2009) indicates, in part, that "In 2002, the stated decided to start converting the 96-mile rail line into a recreational trail, the Lamoille Valley Rail Trail. This project is ongoing". [Exhibit 2]
212. The Sheldon Town Plan (2010) indicates, in part, that "The abandoned railroad bed is now a 26.4 mile year-round recreation path known as the Missisquoi Valley Rail Trail. The trail runs from Richford to St. Albans". [Exhibit 2]
213. The Highgate Town Plan (2009) indicates, in part, that, "The Lamoille Valley Railroad Corridor has been railbanked[...] A Management Plan was passed in 2007 for the Lamoille Valley Rail Trail (LVRT) and sections are open to snowmobilers in the winter. Highgate should work with VAST as the trail is developed to ensure the needs of the community are considered". [Exhibit 2]
214. The Swanton Town and Village Plan (2010) indicates, in part, that "An important goal of Swanton is to plan for alternative transportation that provide safe and efficient access to services. There are several opportunities to encourage non-vehicular modes of transportation, including the Missisquoi Valley Rail Trail, the Lamoille Valley Rail Trail, and Swanton Fit and Healthy recreation trail". [Exhibit 2]
215. The Lamoille County Planning Commission reviewed has found the project to be in conformance with the Lamoille County Regional Plan. The Plan indicates, in part, "1) Facilitate implementation of the Lamoille Valley Rail Trail as an interim use of the rail corridor. 2) Pursue the implementation of the Lamoille Valley Rail Trail and municipal connection to the trail, as well as other direct pathway connections between municipalities". [Exhibits 2, 52]
216. The Northwest Regional Planning Commission reviewed the project and submitted excerpts from its 2007 Plan. The Northwest Commission's review letter and excerpts do not identify and non-conformity with the 2007 Plan. The Plan indicates, in part, "Support the Conversion of the Lamoille Valley Railroad Corridor into a Multi-Modal, All Season Recreation Trail". [Exhibits 2, 67]
217. The Northeastern Vermont Development Association (NVDA) Plan indicates, in part, "Assist with financing to develop additional facilities such as sports fields, playgrounds, trail systems, ice rinks, skateboard parks, and recreation / bike paths". [Exhibit 2]

Conclusion of Law, Criterion 10

The Commission finds that the overall Project is in conformance with the current local and regional plans. The existing railroad corridor predates town plans and regional plans. Its rails-to-trail usage is pursuant to federal law, under which the corridor could revert to usage by trains under federal law. Many of the town and regional plans expressly recognize and support the Lamoille Valley Rail Trail.

Phase 1

The Commission hereby issues a final affirmative conclusion of law under Criterion 10 for the Phase 1 Project. For the reasons set forth above, the Commission concludes that the Phase 1 Project conforms to the current local and regional plans. This constitutes a final conclusion of law under Criterion 10 for the Phase 1 Project.

Master Plan (Phase 2 & 3)

Pursuant to the 1998 Policy, the Commission is unable to reach a positive conclusion of law under Criterion 10 for the Master Plan (Phase 2 & 3). For the reasons set forth above, the Commission concludes that the Master Plan (Phase 2 & 3) conforms to the current local and regional plans. The Commission cannot make a final affirmative conclusion of law under Criterion 10 for the Master Plan (Phase 2 & 3). The Commission's partial findings of fact and conclusion of law under Criterion 10 for the Master Plan (Phase 2 & 3 of the LVRT Project) is valid for a five year period.

VI. SUMMARY CONCLUSION OF LAW

Based upon the foregoing Findings of Fact, it is the conclusion of this District Environmental Commission that the Phase 1 component of the LVRT Project described in the application referred to above, if completed and maintained in conformance with all of the terms and conditions of that application, and of Land Use Permit 7C1321, will not cause or result in a detriment to public health, safety or general welfare under the criteria described in 10 V.S.A., Section 6086(a).

Based upon the foregoing Partial Findings of Fact, pursuant to Act 250 Rule 21 and the Master Permit Policy, this District Environmental Commission hereby issues affirmative findings under criteria 1, 1(A), 1(C), 2 & 3, 4, 5, 6, 7, 8(A), 9(A), 9(B), 9(C), 9(D), 9(E), 9(F), 9(G), 9(H), 9(J), 9(K), and 9(L) for the Phase 2 and Phase 3 components of the LVRT Project described in the application referred to above. The findings are binding on the parties and final for a period of five years from the date of this decision. Pursuant to the Policy, the applicants may seek to renew the findings prior to expiration. The Commission was unable to reach positive conclusions of law under other Criteria.

VII. ORDER

Any **appeal** of this decision must be filed with the Superior Court, Environmental Division within 30 days of the date the decision was issued, pursuant to 10 V.S.A. Chapter 220. The Notice of Appeal must comply with the Vermont Rules for Environmental Court Proceedings (VRECP). The appellant must file with the Notice of Appeal the entry fee required by 32 V.S.A. §1431 and the 5% surcharge required by 32 V.S.A. § 1434a(a), which is \$262.50 as of January 2011.

The appellant must also serve a copy of the Notice of Appeal on the Natural Resources Board, National Life Records Center Building, Montpelier, VT 05620-3201, and on other parties in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings.

For additional information on filing appeals, see the Court's website at: <http://www.vermontjudiciary.org/GTC/environmental/default.aspx> or call (802) 828-1660. The Court's mailing address is: Superior Court, Environmental Division, 2418 Airport Road, Suite 1, Barre, VT 05641-8701.



Lamoille Valley Rail Trail – 401 Water Quality Certification Application

Appendix IM. Potential Impacts to Recreation

May 25, 2021

The overall Project will have a positive effect on recreation by providing year around recreational trail access across the entire state of Vermont, allow widespread access for the types of recreation identified in Chapter IV of Vermont's Statewide Comprehensive Outdoor Recreation Plan, 2014 - 2018 (FPR 2013); and promote the goals of the State of Vermont outlined in the "Vermont Pedestrian and Bicycle Policy Plan". When complete, the Lamoille Valley Rail Trail ("LVRT") will run from northeastern Vermont in St. Johnsbury to the shores of Lake Champlain in Swanton, a total distance of 93 miles, with numerous trailheads and access points for the public.

Potential impacts to land and water-based recreation due to construction will be minimal and occur only during construction of the specific segment that is being built. Closure of trail sections and adjacent segments of waters that may be used for recreation, during construction will be necessary to ensure the safety of trail users. Measures to inform the public about upcoming closures during construction may include, but are not limited to the following measures:

- Signage at existing trail access points and parking areas warning of upcoming closures for construction;
- Temporary fencing or construction flagging and signage at both ends of a segment under construction to prevent use;
- Vermont Association of Snow Travelers listing of trail closures on their website;
- Barricades and trail closed signs will be posted at the road crossings.

Use of the larger streams and rivers for aquatic recreation use, near work areas will be discouraged during construction to prevent injury. Although flow within streams and rivers will be maintained during construction, due to the potential danger to recreational users, use of these sections of waters will be discouraged/ prohibited while active work activities are underway. Such closures will be temporary and will be in place during construction only. Measures to notify recreational users of upcoming construction and associated closures may include, but are not limited to:

- Signage at LVRT access points which may include existing public parking areas, canoe/kayak portage points, or boat launches proximal to the trail, to warn of upcoming closure of segments of streams/ rivers;
- Vermont Association of Snow Travelers listing of associated trail closures on their website.