

Vermont Gas - Addison Natural Gas Project - Phase I
 Chittenden and Addison Counties, Vermont
 Potential Shallow Bedrock Sites Within Class II Wetlands and Buffers
 Prepared by VHB
 September 12, 2013
 Revised: February 19, 2016

VHB Impact Exhibit #	VHB Natural Resource Map Series Sheet #	CHA Plan Sheet # ¹	Town	Wetland Complex ID	Wetland ID	Delineated Area (acres)	VWR Section 4.6 Presumption(s) ²	VWR Section 5 Function(s) ³	VHB Proposed VWR Classification ⁴	Proposed Class II Wetland Trench Impacts ⁵ (Sq Ft)	Proposed Class II Wetland Buffer Trench Impacts ⁵ (Sq Ft)	Surficial Geology Lithology Name	Shallow Depth to Bedrock (inches)	Likelihood of Blasting
27, 29	9	ANGP-EPSC-018	Williston	14	2012-CM-55	15.63*	a, d	5.1, 5.4, 5.6	Class II	307	576	boulders in clay	> 60	Potential
28	9	ANGP-EPSC-018	Williston	14	2012-CM-143	0.15*	a	5.1	Class II	137	541	boulders in clay	> 60	Potential
31, 32	10	ANGP-EPSC-020	Williston	15	2012-CM-75	1.03*	a	5.1	Class II	149	874	boulders in clay	> 60	Potential
32	10	ANGP-EPSC-020	Williston	15	2012-CM-76	1.31*	a	5.1	Class II	629	836	boulders in clay	> 60	Potential
34, 35	10	ANGP-EPSC-021	Williston	16	2012-CM-79	6.26*	a, c, g	5.1, 5.2, 5.6, 5.10	Class II	198	1198	boulders in clay	> 60	Potential
35, 36	11	ANGP-EPSC-021	Williston	17	2012/2013-CM-82	4.45*	a	5.1, 5.4, 5.6	Class II	602	2049	boulders in clay	> 60	Potential
37, 38	11	ANGP-EPSC-022	Williston	18	2012/2013-CM-97/98	6.05*	a	5.1, 5.2, 5.4, 5.6	Class II	720	1481	boulders in clay	> 60	Potential
39	11	ANGP-EPSC-022	Williston	18	2012-CM-175	0.21*	a	5.1, 5.4	Class II	361	746	boulders in clay	> 60	Potential
43	12	ANGP-EPSC-025	Williston	20	2012-CM-91	0.52*	a	5.1	Class II	225	1241	bedrock exposure	> 60	Likely
44	13	ANGP-EPSC-028	Williston	21	2012-CM-102	0.93*	a,c	5.1, 5.10	Class II	258	846	boulders in clay	> 60	Potential
45	14	ANGP-EPSC-029	Williston	22	2012/2013-CM-219	1.47*	a	5.1	Class II	0	192	bedrock exposure	10	Likely
										456	761		> 60	Likely
46	14	ANGP-EPSC-030	St George	22	2012/2013-CM-106	0.84*	a	5.1	Class II	0	391	boulders in clay	> 60	Potential
46	14	ANGP-EPSC-030	St George	22	2012-CM-220	0.75	a	5.1	Class II	385	546	boulders in clay	> 60	Potential
48	15	ANGP-EPSC-032	St George	24	2012-CM-111	1.43*	a	5.1	Class II	774	1152	boulders in clay	> 60	Potential
49, 50	16	ANGP-EPSC-035	St George	25	2012-PW-97	1.91*	a, c	5.1, 5.10	Class II	1838	585	boulders in clay	> 60	Potential
50	16	ANGP-EPSC-035	St George	25	2012-PW-96	0.81*	a	5.1	Class II	0	444	boulders in clay	> 60	Potential
51	17	ANGP-EPSC-037	Hinesburg	26	2012-JB-38	2.23*	a	5.1, 5.2	Class II	0	647	boulders in clay	> 60	Potential
52	17	ANGP-EPSC-038	Hinesburg	26	2012-CM-222	0.04	a	5.1	Class II	0	169	boulders in clay	> 60	Potential
53, 54	17	ANGP-EPSC-038	Hinesburg	26	2012-JB-33/34/35	14.8*	a,c	5.1, 5.2, 5.5, 5.4, 5.10	Class II	1805	1278	boulders in clay	> 60	Potential
54	17	ANGP-EPSC-039	Hinesburg	26	2012-CM-232	0.05*	a	5.1, 5.2	Class II	0	315	boulders in clay	> 60	Potential
55 through 58	17	ANGP-EPSC-039	Hinesburg	26	2012-JB-31	6.59*	a,c, d	5.1, 5.2, 5.4, 5.5, 5.6, 5.10	Class II	297	260	boulders in clay	10	Likely
										4104	1604		> 60	Potential
59 through 65	18	ANGP-EPSC-041	Hinesburg	27	2013-AW-CM-8	18.53*	a,c	5.1, 5.2, 5.4, 5.10	Class II	909	1111	bedrock exposure	> 60	Likely
										1598	4779	boulders in clay	> 60	Potential
66	19	ANGP-EPSC-043	Hinesburg	27	2013-AW-CM-9	0.38*	a	5.1, 5.2, 5.4, 5.10	Class II	221	585	boulders in clay	> 60	Potential
67	19	ANGP-EPSC-043	Hinesburg	27	2013-AW-CM-10	1.02*	a	5.1, 5.2, 5.4, 5.10	Class II	624	555	boulders in clay	> 60	Potential
68	19	ANGP-EPSC-043	Hinesburg	28	2012-CM-87	0.95*	a	5.1, 5.2	Class II	870	901	boulders in clay	10	Likely
										0	443		> 60	Potential
69	19	ANGP-EPSC-044	Hinesburg	29	2012-RS-20	0.13*	a	5.1	Class II	0	767	bedrock exposure	> 60	Likely
70, 71	20	ANGP-EPSC-046	Hinesburg	30	2012-CM-84	2.83*	a	5.1, 5.2	Class II	0	59	boulders in clay	10	Likely
72	20	ANGP-EPSC-046	Hinesburg	30	2012-PW-84	0.1	a	5.1	Class II	2	983	boulders in clay	> 60	Potential
73	21	ANGP-EPSC-048	Hinesburg	31	2012-PW-79	0.79*	a	5.1, 5.2	Class II	608	585	boulders in clay	> 60	Potential
74	21	ANGP-EPSC-049	Hinesburg	31	2012-PW-78/RS-18	1.4*	a	5.1	Class II	1090	510	boulders in clay	> 60	Potential
75	21	ANGP-EPSC-049	Monkton	31	2012-PW-77/RS-17	1.25*	a	5.1	Class II	955	605	boulders in clay	> 60	Potential
76	21	ANGP-EPSC-049	Monkton	31	2012-PW-76/RS-16	0.55*	a	5.1	Class II	773	512	boulders in clay	> 60	Potential
77	21	ANGP-EPSC-049	Monkton	31	2012-PW-75	0.3	a	5.1	Class II	294	759	boulders in clay	> 60	Potential
78 through 81	21	ANGP-EPSC-050	Monkton	31	2013-CM-3	2.04*	a	5.1, 5.2, 5.4	Class II	2326	3164	boulders in clay	> 60	Potential
82, 83, 84	22	ANGP-EPSC-051	Monkton	31	2013-AW-CM-7	5.99*	a	5.1, 5.2, 5.4	Class II	315	368	boulders in clay	> 60	Potential
83 through 86	22	ANGP-EPSC-052	Monkton	31	2012/2013-PW-71/72/73	3.49*	a	5.1	Class II	0	652	boulders in clay	> 60	Potential
87	22	ANGP-EPSC-053	Monkton	31	2012-RS-15	0.09*	a	5.1, 5.2	Class II	0	426	boulders in clay	> 60	Potential
87, 88	22	ANGP-EPSC-053	Monkton	31	2012-PW-70/RS-14	0.13*	a	5.1	Class II	144	562	boulders in clay	> 60	Potential

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88	22	ANGP-EPSC-054	Monkton	31	2012-PW-69	0.27*	a	5.1	Class II	200	891	boulders in clay	> 60	Potential
91 through 94	24	ANGP-EPSC-057	Monkton	32	2012/2013-PW-67	123.39*	a,b, g	5.1, 5.2, 5.4, 5.5, 5.6, 5.9, 5.10	Class II	584	662	boulders in clay	> 60	Potential
95, 96	25	ANGP-EPSC-059	Monkton	33	2012-PW-64	1.76*	a	5.1, 5.2	Class II	1431	820	boulders in clay	> 60	Potential
97	25	ANGP-EPSC-061A	Monkton	33	2012-JB-12	0.17*	a, c	5.1, 5.4, 5.10	Class II	0	89	bedrock exposure	> 60	Likely
										267	816	boulders in clay	> 60	Potential
98	26	ANGP-EPSC-063	Monkton	34	2012-RS-32	0.05*	a	5.1	Class II	60	500	boulders in clay	> 60	Potential
98	26	ANGP-EPSC-063	Monkton	34	2012-RS-33	0.26*	a	5.1	Class II	233	618	boulders in clay	> 60	Potential
99 through 102	26	ANGP-EPSC-064	Monkton	35	2012-RS-31	4.33*	a	5.1, 5.4	Class II	0	1222	boulders in clay	> 60	Potential
103, 104	27	ANGP-EPSC-065	Monkton	35	2012-RS-30	0.43*	a	5.1	Class II	0	951	bedrock exposure	> 60	Likely
										0	1051	boulders in clay	> 60	Potential
121, 122	28	ANGP-EPSC-068	New Haven	36	2012-RS-24	1.37*	a	5.1, 5.2, 5.4	Class II	0	760	boulders in clay	> 60	Potential
130 through 142	31	ANGP-EPSC-075	New Haven	40	2012-CM-160/161	39*	a, g	5.1, 5.2, 5.4, 5.6	Class II	16453	2769	boulders in clay	> 60	Potential
143, 144	32	ANGP-EPSC-077	New Haven	40	2012-CM-158	0.82*	a	5.1, 5.2	Class II	738	1812	boulders in clay	> 60	Potential
145	32	ANGP-EPSC-078	New Haven	40	2012-CM-157	0.14*	a	5.2	Class II	0	587	boulders in clay	> 60	Potential
146, 147	33	ANGP-EPSC-078	New Haven	40	2012-CM-156	3.21*	a	5.1, 5.2	Class II	364	1121	boulders in clay	> 60	Potential
148	34	ANGP-EPSC-081	New Haven	41	2012-CM-150	0.77*	a	5.1	Class II	334	354	boulders in clay	> 60	Potential
152	35	ANGP-EPSC-M003	Middlebury	48	2012-PW-5	0.09*	a	5.1, 5.2	Class II	0	373	boulders in clay	> 60	Potential
153, 154	35	ANGP-EPSC-M004	Middlebury	49	2012-PW-2	0.34*	a	5.1	Class II	0	2637	boulders in clay	> 60	Potential
155, 156	51	ANGP-EPSC-M005/M006	Middlebury	50	2012-PW-1/JB-39	0.18*	a	5.1, 5.2	Class II	0	2722	boulders in clay	> 60	Potential
158, 159	40	ANGP-EPSC-V007	Ferrisburgh	43	2012-RS-42	0.47*	a	5.1	Class II	54	3083	boulders in clay	> 60	Potential
160	41	ANGP-EPSC-V011	Ferrisburgh	44	2012-RS-47	0.04*	a	5.1	Class II	0	119	boulders in clay	> 60	Potential
160, 161	41	ANGP-EPSC-V011	Ferrisburgh	44	2012-RS-48	0.37*	a	5.1, 5.2	Class II	1	1402	boulders in clay	> 60	Potential
										0	536		> 60	Potential
162, 163	41	ANGP-EPSC-V012	Ferrisburgh	45	2012-RS-52	0.36*	a	5.1, 5.2	Class II	581	1707	boulders in clay	> 60	Potential
162, 163	41	ANGP-EPSC-V012	Ferrisburgh	45	2012-RS-53	0.08*	a	5.1, 5.2	Class II	0	319	boulders in clay	> 60	Potential
164	41	ANGP-EPSC-V013/V014	New Haven	46	2012-CM-176	0.27*	a	5.1, 5.2	Class II	13	1547	boulders in clay	> 60	Potential
										Likely (Subtotal) (Sq Ft)	2,757	6,332		
										Potential (Subtotal) (Sq Ft)	42,530	60,194		

Note: Typical depth of trench is five feet (60").

*Indicates wetland continues outside of the VHB investigation area.

¹CHA Plan Sheet # references the June 28, 2013 Site Plans.

²Alpha-numeric codes correspond with Section 4.6 Presumptions of Significance in the 2010 Vermont Wetland Rules.

³VWR Section 5 Functional Criteria for Evaluating a Wetland's Significance: 5.1=Water Storage for Flood Water and Storm Runoff, 5.2=Surface and Groundwater Protection, 5.3=Fish Habitat, 5.4=Wildlife Habitat, 5.5=Exemplary Wetland Natural Community, 5.6=Rare, Threatened or Endangered Species Habitat, 5.7=Education and Research in Natural Sciences, 5.8=Recreational Value and Economic Benefits, 5.9=Open Space and Aesthetics, 5.10=Erosion Control Through Binding and Stabilizing the Soil. Functions presented are for the subject wetlands.

⁴VHB's proposed wetland classification has been field reviewed (representative areas) by VT DEC wetlands staff.

⁵Impacts from 5' wide trench for proposed transmission and distribution mainline. Impacts were removed where wetland and buffer impacts were less than 50 square feet (equivalent to 10 feet of linear trench). GIS impact analysis conducted using limits of disturbance created from the CHA CAD-based design drawing: June 28, 2013.

⁶Potential for Trench Encountering Bedrock determined from combination of Surficial Geology (by VT ANR 2008 from USGS quadrangle map sheets) and Shallow Depth to Bedrock (by NRCS 2011).

Likely = shallow depth to bedrock less than 60 inches or 'bedrock exposure' surficial geology type.

Potential = shallow depth to bedrock greater than 60 inches or surficial geology type other than 'bedrock exposure'.