



To: Deerfield Wind Project File

Date: July 2, 2008

Project 57258

No.:

From: VHB Pioneer

Re: Operational Stormwater Management  
System Testimony and Exhibit

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VHB Pioneer has prepared the Prefiled Rebuttal Testimony of Jeffrey A. Nelson and Krista Reinhart on behalf of Deerfield Wind, LLC. Referenced in this document are exhibit sheets related to the operational stormwater management system, listed below:

<b>Page</b>	<b>Description</b>
1	Discharge Location (SN) Summary Table
2	Stormwater Basin Summary Table
3	HydroCAD™ Hydrologic modeling routing diagrams for pre-development condition
4	HydroCAD™ Hydrologic modeling routing diagrams for post-development condition
5	Overall Subwatershed Map
6	Subwatershed Map - West Ridge
7	Subwatershed Map - East Ridge

Discharge Location (SN) Summary Table  
 Deerfield Wind Project  
 VHB Pioneer  
 Date: 7/2/2008

SN Location	Subwatershed	Stormwater Basin	Segment of Deerfield River*	Receiving Water	SN Elevation (feet)	VWQS Classification	Impervious Area (acres)	Site Area (acres)	Q10 Peak Flow Rate			
									Pre (cfs)	Post (cfs)	Post (cfs)	
001	DA-01	B-01	Segment 2	Stream 14 to Bond Brook	2410	B	1.88	3.74	19.0	18.9	80.4	78.6
002	DA-02, DA-35	B-02, B-35	Segment 2	Stream 15 to Bond Brook	2475	B	1.23	4.49	24.5	24.5	121.3	120.2
003	DA-05	B-05	Segment 2	Bond Brook	2435	B	0.78	1.62	24.5	24.5	121.3	120.2
004	DA-03	B-03	Segment 1	Unnamed Stream to Pine Brook	2250	B	2.68	8.45	12.9	12.8	66.0	63.3
005	DA-06	B-06	Segment 1	Stream 19 to Rake Branch	2720	A(1)	0.86	2.11	20.8	20.6	80.1	80.0
006	DA-07	B-07	Segment 1	Stream 19 to Rake Branch	2425	B	1.13	3.14	13.6	13.7	39.1	39.2
007	DA-08	B-08	Segment 2	Bond Brook	2650	A(1)	2.41	6.95	45.4	44.0	181.6	175.1
008	DA-10, DA-13	B-10, B-13	Segment 2	Wetland to Bond Brook	2550	A(1)	2.57	12.08	45.4	44.0	181.6	175.1
009	DA-09	B-09	Segment 1	Wetland to Rake Branch	2490	B	1.42	4.19	20.1	19.6	72.1	69.4
010	DA-11	B-11	Segment 1	Wetland to Rake Branch	2500	B	1.54	5.13	44.8	43.3	157.8	152.6
011	DA-12, B-36	B-12, B-36	Segment 3	Stream 3 to West Branch of Deerfield River	2660	A(1)	3.37	6.86	45.2	44.5	146.7	143.4
012	DA-18, DA-19	B-18, B-19	Segment 2	Wetland to Bond Brook	2375	B	1.56	6.78	166.8	154.5	479.7	458.6
013	DA-16, DA-23	B-16, B-23	Segment 3	Wetland to West Branch of Deerfield River	2415	B	1.04	5.10	80.9	78.9	232.3	226.8
014	DA-20	B-20	Segment 2	Medbury Brook	2550	A(1)	0.64	2.04	77.0	71.8	214.8	201.0
015	DA-25, DA-26	B-25, B-26	Segment 2	Unnamed Stream to Medbury Brook	2870	A(1)	1.48	3.82	141.1	140.6	393.7	391.2
016	DA-31	B-31	Segment 2	Stream 5 to Medbury Brook	2965	A(1)	0.43	1.78	141.1	140.6	393.7	391.2
017	DA-24	B-24	Segment 3	Stream 4 to West Branch of Deerfield River	2425	B	1.06	2.64	116.8	114.1	326.3	321.0
018	B27	B-27	Segment 3	Stream 4 to West Branch of Deerfield River	2865	A(1)	0.26	0.85	116.8	114.1	326.3	321.0
019	DA-29, DA-28	B-29, B-28	Segment 3	Stream 2 to West Branch of Deerfield River	2705	A(1)	0.91	3.15	116.8	114.1	326.3	321.0
020	DA-32, DA-33	B-32, B-33	Segment 2	Stream 5 to Medbury Brook	2680	A(1)	1.48	3.80	141.1	140.6	393.7	391.2
021	DA-34	B-34	Segment 2	Wilder Brook	2225	B	1.05	3.05	63.8	63.9	178.0	181.7
022	DA-37	B-37	Segment 3	Unnamed Stream to West branch of Deerfield River	2725	A(1)	1.45	2.41	98.1	97.0	273.5	270.5
023	DA-04	B-04	Segment 1	Wetland tied to Pine Brook	2650	A(1)	0.325	1.1	12.9	12.8	66.0	63.3
024	DA-14	B-14	Segment 2	Wetland tied to Bond Brook	2470	B	0.32	0.72	166.8	154.5	479.7	458.6
025	DA-17, DA-21, DA-22	B-17, B-21, B-22	Segment 2	Wetland tied to Bond Brook	2470	B	2.652	8.23	166.8	154.5	479.7	458.6
026	DA-15	B-15	Segment 2	Unnamed Stream to Bond Brook	2430	B	0.932	1.81	166.8	154.5	479.7	458.6
027	DA-30	B-30	Segment 3	Wetland to West Branch of Deerfield River	2985	A(1)	0.74	1.94	141.1	140.6	393.7	391.2
Total							36.2	108.0				

\*Segment 1 discharges to waters draining to Deerfield River upstream of Searsburg Reservoir  
 \*Segment 2 discharges to waters draining to Deerfield River upstream of Harriman Reservoir  
 \*Segment 3 discharges to waters draining to West Branch of Deerfield River, then to Deerfield River upstream of Sherman Reservoir

Basin Summary Table  
Deerfield Wind Project  
VHB Pioneer

Date: 7/2/2008

On-Site Subw/Basin ID	SN Location	Impervious Area (acres)	Site Area (acres)	WQV		CPV		
				Required (cubic feet)	Provided (90% permanent pool) (cubic feet)	Percent Provided	Required (hours)	Provided (hours)
B-01	001	1.881	3.741	6,142	6,012	98%	12	14
B-02	002	0.631	2.154	2,207	2,156	98%	12	12
B-03	004	0.325	1.105	1,136	1,055	93%	12	6
B-04	023	2.678	8.45	9,254	9,109	98%	24	24
B-05	003	0.775	1.620	2,543	2,405	95%	12	12
B-06	005	0.864	2.113	2,886	2,803	97%	12	13
B-07	006	1.133	3.137	3,844	3,651	95%	12	13
B-08	007	2.409	6.953	8,219	7,544	92%	12	13
B-09	009	1.418	4.186	4,853	4,579	94%	24	27
B-10	008	1.672	8.852	6,362	6,032	95%	24	25
B-11	010	1.539	5.124	5,362	5,135	96%	24	25
B-12	011	1.533	2.45	4,908	9,109	186%	12	12
B-13	008	0.897	3.234	3,166	3,026	96%	24	17
B-14*	024	0.320	0.716	641	622	97%	24	8
B-15*	026	0.932	1.81	811	787	97%	12	10
B-16*	013	0.742	3.279	2,363	2,302	97%	24	24
B-17*	025	0.666	1.96	1,608	1,601	100%	24	19
B-18*	012	0.737	2.816	2,029	1,927	95%	24	24
B-19*	012	0.819	3.959	2,821	2,662	94%	24	26
B-20*	014	0.636	2.041	1,449	1,356	94%	12	14
B-21	025	1.055	3.745	3,714	3,560	96%	24	27
B-22	025	0.931	2.523	3,150	3,013	96%	24	27
B-23	013	0.295	1.821	1,165	1,133	97%	24	14
B-24	017	1.064	2.638	3,559	3,651	103%	12	13
B-25	015	0.754	2.012	2,546	2,278	89%	12	13
B-26	015	0.725	1.814	2,428	2,309	95%	12	14
B-27	018	0.255	0.85	889	850	96%	12	9
B-28	019	0.325	1.433	1,190	1,146	96%	12	12
B-29	019	0.585	1.72	2,001	1,868	93%	12	14
B-30	027	0.741	1.943	2,496	2,313	93%	24	22
B-31	016	0.429	1.778	1,552	1,476	95%	12	12
B-32	020	0.732	1.726	2,434	2,309	95%	12	12
B-33	020	0.748	2.068	2,537	2,313	91%	12	12
B-34	021	1.050	3.05	3,586	3,414	95%	12	14
B-35	002	0.596	1.334	1,970	2,089	106%	12	28
B-36	011	1.841	4.413	6,134	5,724	93%	12	14
B-37	022	1.450	2.411	4,657	4,263	92%	12	13
Total		36.2	107.0					

\*These subwatersheds include redevelopment area  
Maximum detention time provided using minimum required orifice size of one inch.

DR-02

DR-02

DR-03

DR-03

DR-04

DR-04

DR-08

DR-08

DR-09

DR-09

DR-10

DR-10

DR-11

DR-11

DR-12

DR-12

DR-13

DR-13

DR-15

DR-15

DR-16

DR-16

DR-17

DR-17

DR-19

DR-19

WBDR-02

WBDR-02

WBDR-03

WBDR-03

WBDR-04

WBDR-04

Subcat

Reach

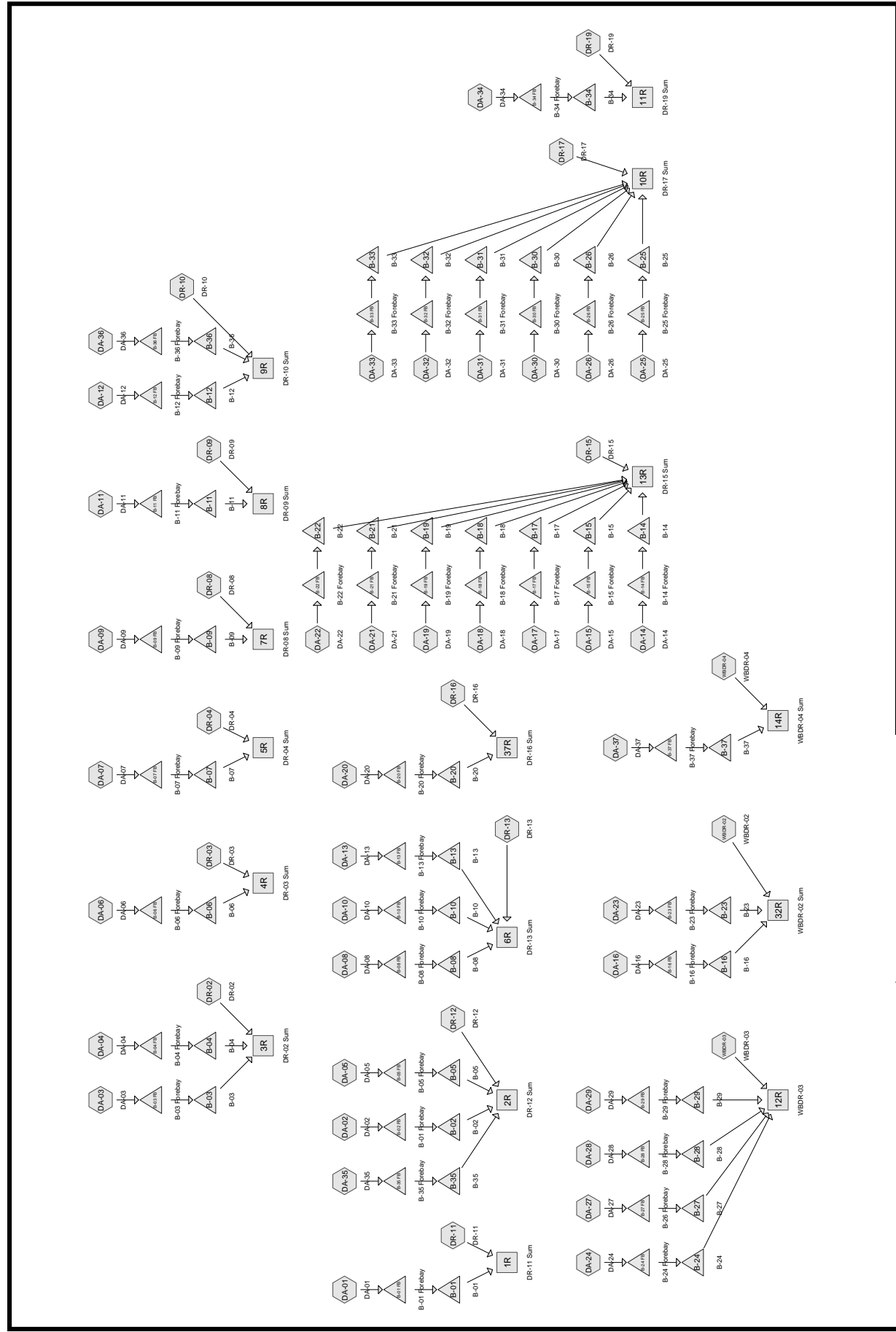
Pond

Link

**Drainage Diagram for Deerfield Wind Pre Development**

Prepared by VHB Pioneer, Printed 7/1/2008

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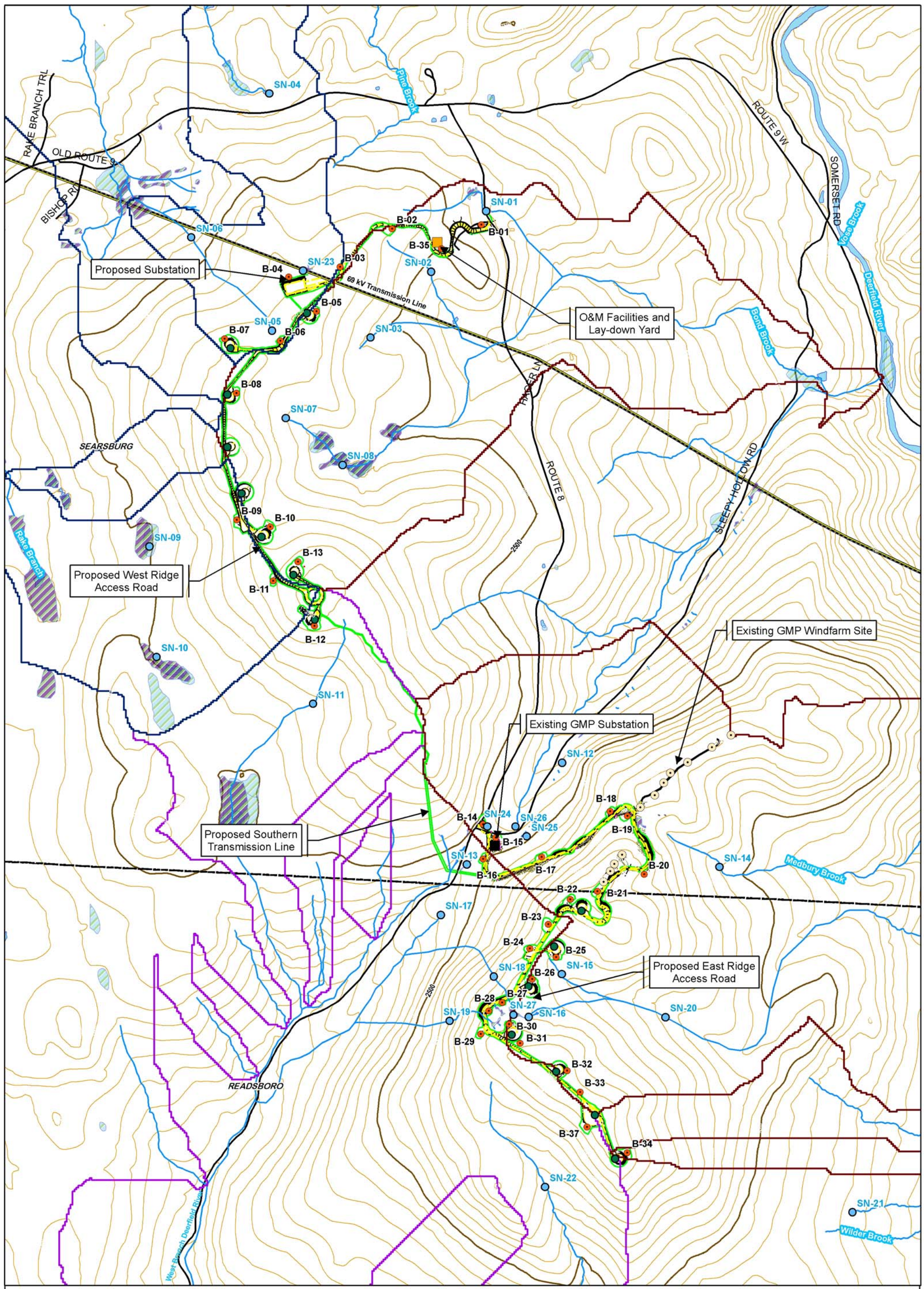
**Drainage Diagram for Deerfield Wind Post Development**  
 Prepared by VHB Pioneer, Printed 7/1/2008  
 HydroCAD® 8.50 s/n 002760 © 2007 HydroCAD Software Solutions LLC

Subcat

Reach

Pond

Link



**Deerfield Wind Project  
Searsburg/Readsboro, Vermont  
Overall Subwatershed Map**

July 2, 2008

**Legend:**

- Proposed Turbine
- Discharge Locations
- Basin
- Existing Turbine
- Existing Substation
- O&M Facilities and Laydown Area
- Wetland (Iberdrola)
- NWI Wetland

**Infrastructure:**

- Roads (VTRANS)
- Town Boundary
- Electric Transmission Lines
- Stream
- Waterbody
- 50 ft. Contour
- 2500 ft. Contour
- Limits of Tree Clearing

**Watersheds:**

- Segment 1 Watershed
- Segment 2 Watershed
- Segment 3 Watershed

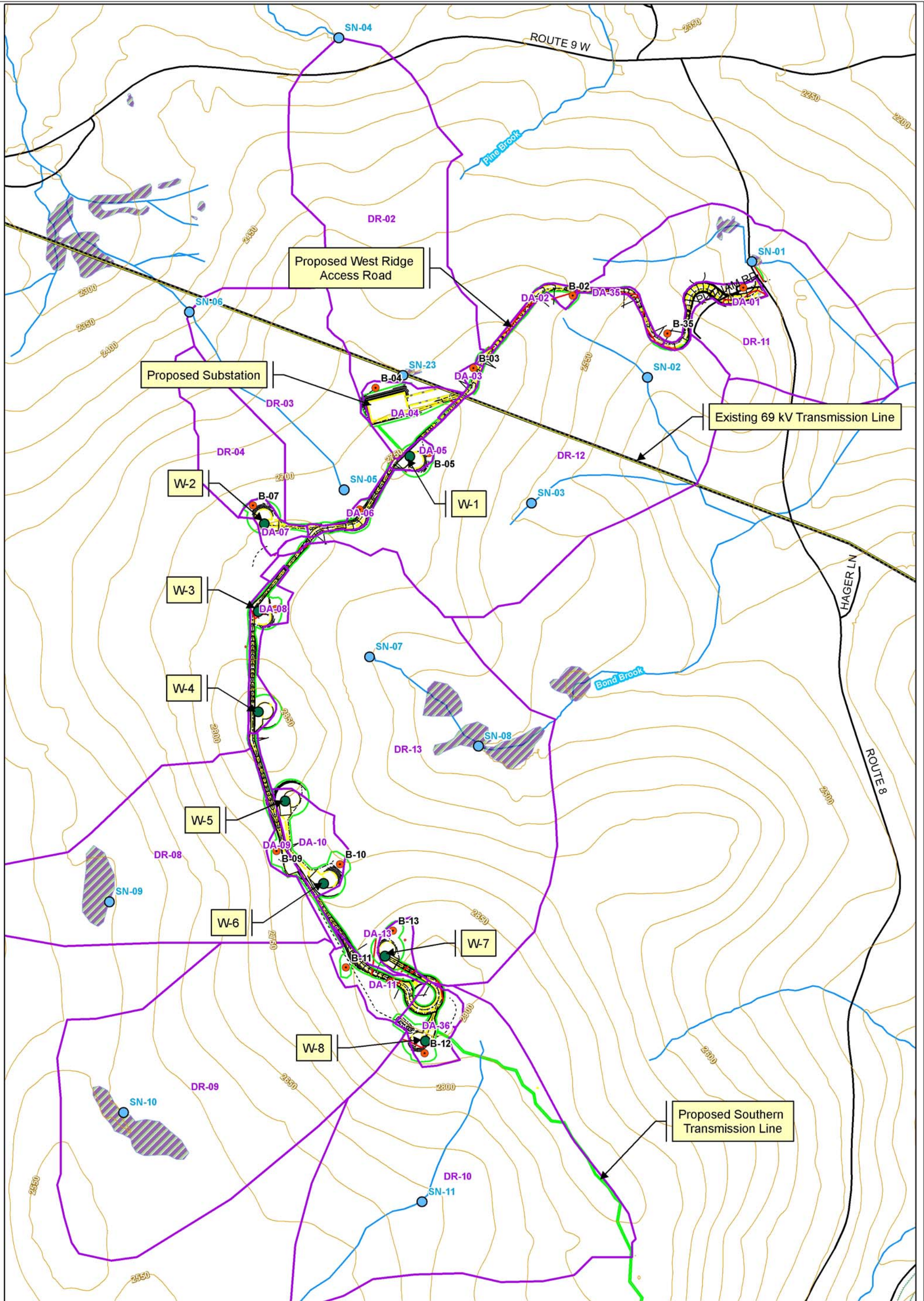
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Feet

Sources: Background: NAIP Photography (2003); Federal/State Lands, Stream Town Boundary and Waterbody layers all downloaded from VCGI (2004); Roads layer downloaded from VCGI (2007); Contours generated using VT HydroDEM layer downloaded from VCGI (2007).

**VHB PIONEER**  
Environmental Associates

48 Green Street, Suite 2 email: info@vhb.com  
Post Office Box 354 www.vhb.com  
Vergennes, Vermont 05491 802.877.1380

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- Legend**
- Proposed Turbine
  - Discharge Locations
  - Basin
  - Post-Development Subwatersheds
  - Wetlands
  - Stream
  - 50 ft. Contour
  - Roads

**Deerfield Wind Project  
Searsburg/Readsboro, Vermont  
Subwatershed Map  
West Ridge**

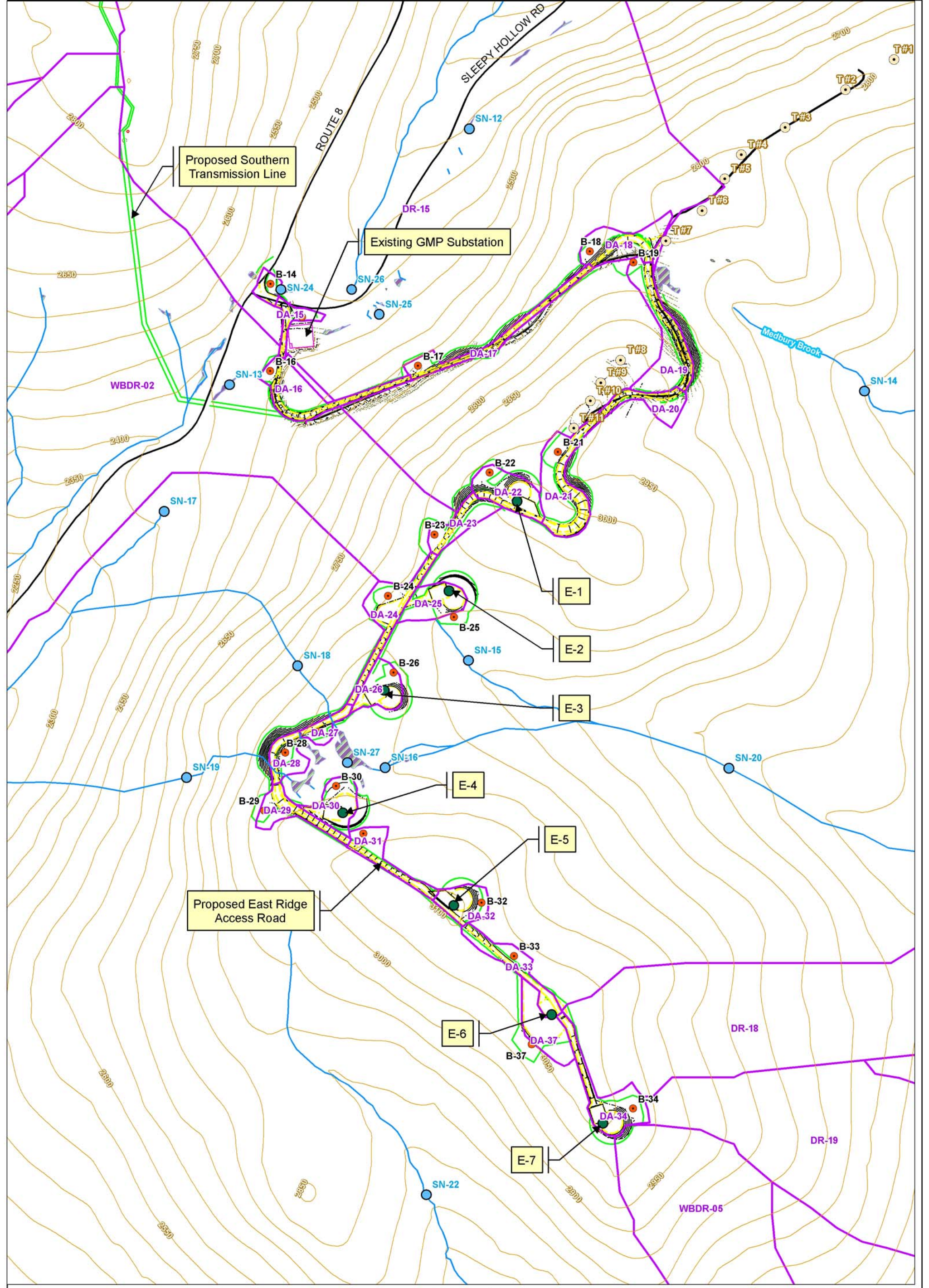
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48 Green Street, Suite 2 email: info@vhb.com  
Post Office Box 354 www.vhb.com  
Vergennes, Vermont 05491 802.877.1380



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**Deerfield Wind Project  
Searsburg/Readsboro, Vermont  
Subwatershed Map  
East Ridge**

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