VHB Transportation | Land Development | Environmental | Energy

Creating results for our clients and benefits for our communities.

July 19, 2013

Ref: 57563.00

Mr. Kevin Burke
Environmental Analyst
Watershed Management Division
Vermont Department of Environmental Conservation
One National Life Drive, Main 2
Montpelier, VT 05620-3522

Ms. Jenna Calvi
Environmental Analyst
Watershed Management Division
Vermont Department of Environmental Conservation
One National Life Drive, Main 2
Montpelier, VT 05620-3522

RE: Vermont Gas Systems, Inc.
Addison Natural Gas Project – Phase I
Individual Stormwater Construction Discharge Permit Application
Response to Technical Comments

Dear Kevin and Jenna:

On behalf of Vermont Gas Systems, Inc. ("VGS") Vanasse Hangen Brustlin, Inc. ("VHB") has prepared this letter in response to Vermont Department of Environmental Conservation ("VT DEC") comments/requests provided through your letter dated July 8, 2013, regarding the above-referenced permit application for the Addison Natural Gas Project ("ANGP") – Phase I. Your comments are restated in bold below, followed by response provided on behalf of VGS by VHB and Clough Harbour & Associates ("CHA").

<u>DEC Comment #1</u>: The proposed limits of concurrent earth disturbance and days until final stabilization are high. We recognize the linear nature of this project and type of construction requires larger areas to be open concurrently. However, we request that the proposed limits of concurrent earth disturbance and days until final stabilization are broken up by watershed to ensure that each watershed is receiving adequate protection during the construction process.

Vanasse Hangen Brustlin, Inc.
7056 US Route 7, Post Office Box 120
North Ferrisburgh, Vermont 05473
802.497.6100 • FAX 802.425.7799
www.vhb.com

VHB Response #1: The following is a summary of the total amount of proposed earth disturbance, as well as proposed limits of concurrent earth disturbance and days until stabilization (temporary or final) within each major watershed. In addition to information requested, we also are providing proposed area of disturbance within each major watershed as a percentage of the total watershed area in order to get a sense of relative temporary impact to that watershed that may be resulting from the project's proposed earth disturbance.

Major Watershed	Total Area of Proposed Earth Disturbance within Watershed (acre)	Percent of Total Watershed Area (%)	Maximum Amount of Allowable Concurrent Earth Disturbance within Watershed (acre)	Maximum Number of Allowable Days Prior to Temporary or Final Stabilization
Lake Champlain (direct)	3	<0.01	40	28
Indian Brook	37	0.49	10	7
Alder Brook	20	0.31	40	28
Winooski River	20	0.01	40	28
Allen Brook	14	0.21	10	7
Muddy Brook	12	0.14	40	28
Sucker Brook	28	0.58	40	28
LaPlatte River	46	0.14	40	28
Lewis Creek	33	0.07	40	28
Little Otter Creek	99	0.22	40	28
New Haven River	15	0.02	40	28
Otter Creek (direct)	11	0.01	10	7

As referenced on pages 13 and 14 of the EPSC Plan Narrative, dated July 3, 2013, earth disturbance within each of the Indian Brook, Allen Brook, and Otter Creek watersheds will be limited to a maximum of 10 acres at any one time (within that given watershed) due to their inclusion on the 2012 State of Vermont List of Priority Surface Waters Outside the Scope of Clean Water Act Section 303(d) – Part C and/or Part D. Similarly, the maximum number of days prior to temporary or final stabilization within these three watersheds is seven (7) days, with the exception of exposed soils that are within off-corridor access roads and corridor access routes that are to be used within 24 hours. These areas may remain open for up to 14 days prior to temporary or permanent stabilization; see page 14 of the EPSC Plan Narrative, dated July 3, 2013.

DEC Comment #2: The proposed "Additional Temporary Work Spaces" are as large as 3.67 acres in some locations to accommodate the space requirements for completing

Horizontal Direct Drilling (HDD). We request that the applicant reduce these work spaces if possible, or otherwise demonstrate why such a large area is required.

CHA Response #2: Throughout the design process, the ATWS locations and sizes have been adjusted to avoid impacts to sensitive resource areas, while providing safe means for assembling, staging, and maneuvering equipment (see "Supplemental & Rebuttal Testimony of John Heintz", dated June 28, 2013, at page 20). With regard to the 3.67-acre ATWS that is referenced in the comment above, this ATWS is located on the north side of the Monkton Swamp HDD installation and extends from Post Road at the north end to the drill exit point on the south end. This ATWS has been located and sized to minimize impacts while also provide adequate space to construct, including the following considerations:

- The HDD drill path is approximately 2,270 feet in length, while the ATWS is 1,500 feet in length. Normally, the ATWS for the pipe side of a HDD installation is longer than the drill path length, but that is not possible in this situation due to site constraints. Therefore, the contractor is required to assemble, test, and install the pipe in two sections. As such, additional space for HDD installation is needed.
- The HDD drill path is not aligned with the work space due to topography. Because of this, the contractor will require additional working space to allow for a compound angle (horizontal as well as vertical) of entry when pulling the pipe though the HDD path.
- The terrain between Post Road and the drill exit point is uneven, hilly and rocky. The contractor will require additional work space to deal with pipe on this uneven terrain.

DEC Comment #3: There is a Northern White Cedar Swamp located at approximately MP 32.5 in New Haven, just north of Little Otter Creek (ANGP-EPSC-067). This swamp has permanently saturated organic soils of unknown depth, and the construction types (2D & W) proposed for this area will cause the soils to collapse if excavated which will lead to a greater area of impact and potentially an alteration of the wetland hydrology. Please provide further details to demonstrate how trenching will be done to mitigate these impacts; the details should include depth of the peat, and how it will be stabilized during and after pipeline installation.

CHA Response #3: In order to minimize potential for greater impacts to this resource area, construction activities within the swamp may involve dewatering (see details on EPSC Plan Sheet ANGP-T-G-016) to maintain an appropriate width and depth of the trench that is needed for installation of the pipeline. Alternatively, if it aids in maintaining stability, water will be left in the trench to provide hydrostatic pressure along the walls of the trench. Additionally, construction mats will be utilized to limit the overall impact width. If dewatering is necessary, it will be confined to the construction right-of-way and will be

conducted in a manner that minimizes potential for erosion or discharge of sediment to the resource area. Following trenching and pipeline installation, segregated soil will be back-filled with subsoil followed by topsoil then stabilized with seed per the riparian and wetland seeding specification and weed-free straw per the EPSC Plan.

DEC Comment #4: The plan sheets provided show several "permanent access roads" which are well over one (1) acre. Please provide additional information on how these roads are to be built, including the materials used to build them as well as how they will be maintained. Further, we request that temporary access roads are removed or reduced in locations where permanent access roads provide site access.

VHB Response #4: Please see EPSC Plan Sheets ANGP-T-G-007A through ANGP-T-G-010, dated June 28, 2013, submitted to VT DEC on July 3, 2013 as supplemental materials to the original application. References to access road types (e.g., permanent vs. temporary) have been corrected on these latest plan sheets to reflect the three permanent access roads: "A", "AB", and "AE", which have been included in the plans previously. Portions of these three permanent access roads may involve installation of a pervious surface (e.g., pervious pavers), as represented by the EPSC Plan, to limit the overall total impervious area associated with the project to less than one acre. With regard to removal or reduction of temporary access roads, the EPSC Plan Notes on Sheet ANGP-T-G-011 include a requirement to remove all temporary EPSC measures within 30 days after final site stabilization or after the temporary EPSC measures are no longer needed (whichever is to occur first), which includes temporary access roads; please see last note (#9) under "Temporary and Final Stabilization Notes".

DEC Comment #5: In the proposed re-vegetation plan, we request that in areas where rare, threatened, or endangered (RTE) species are present or immediately adjacent to the line, the applicant utilize straw mulch, or re-seed with an annual rye cover per the recommendation of Bob Popp. Furthermore, we request that in areas where wetland timber mats are to be used, specifically during the growing season from April 15th to October 1st, the mats be in place for no more than five (5) days.

VHB Response #5: With regard to re-vegetation of areas where RTE species are present or immediately adjacent to the line, additional information has been prepared related to this comment; please see "Additional Environmental Notes", #21c on EPSC Plan Sheet ANGP-T-G-0011, dated June 28, 2013, submitted to VT DEC on July 3, 2013 as supplemental materials to the original application. With regard to limited duration of mats in wetlands, additional information has been prepared related to this comment; please see responses to Mr. Popp provide in "Addison Natural Gas Project, PSB Docket No. 7970, Supplemental & Rebuttal Testimony of Jeffrey A. Nelson", dated June 28, 2013, at pages 16 and 17, as well

as "Additional Environmental Notes", #6 on EPSC Plan Sheet ANGP-T-G-0011, dated June 28, 2013.

DEC Comment #6: Please provide a post-construction restoration and re-vegetation plan to address areas where disturbance will occur in state-significant natural communities. This plan should cover, at a minimum, the following:
a. How soils that have been excavated or disturbed will be returned to their original horizons in the soil profile
b. Species to be planted and locations of those plantings; plant species should be selected based on the native characteristic of the natural community type impacted.

VHB Response #6: Additional information has been prepared related to this comment; please see "Addison Natural Gas Project, PSB Docket No. 7970, Supplemental & Rebuttal Testimony of Jeffrey A. Nelson", dated June 28, 2013, at page 17, as well as "Additional Environmental Notes", #21 on EPSC Plan Sheet ANGP-T-G-011, dated June 28, 2013, submitted to VT DEC on July 3, 2013 as supplemental materials to the original application.

DEC Comment #7: In areas where Horizontal Direct Drilling (HDD) is being utilized, we understand that drilling fluid will be required for that process. Please describe the contents of this fluid, where it is created or mixed, and how it is being transported to the sites where HDD is being utilized.

CHA Response #7: The drilling fluid most commonly used for HDD is a mixture of fresh water, bentonite (sodium montmorillonite), and benign polymers, which is the same fluid that is commonly used by water well drillers. Bentonite is a natural clay that is very hydrophilic, causing the clay particles to swell when mixed with water. (Chapter 5, "Pipeline Design for Horizontal Directional Drilling", by American Society of Civil Engineers). The bentonite is transported to the site in bags as a dry powder to be mixed with fresh water in a mud tank, often mounted on a truck trailer. Material Safety Data Sheets ("MSDS") for each of the fluid components will be provided by the contractor.

DEC Comment #8: How do you propose to manage drilling fluids in areas where HDD is being utilized?

CHA Response #8: During the bore-hole ream phase, drilling fluids will be collected at the drill site in pits surrounding the drill entry and exit points. The drilling fluids will then be reclaimed, screened, and may be reused.

DEC Comment #9: How will drilling fluids be disposed of once each HDD has been completed?

CHA Response #9: Remaining drilling fluids that are not reused are transported from the site via tank trucks to approved locations, such as landfills for disposal or farm land for spreading consistent with past practices in Vermont.

DEC Comment #10: Do you have plans or protocols in place if drilling fluids leak to surface or ground water during the HDD process? If so, what are they?

CHA Response #10: The HDD contractor will be required to have an inadvertent return contingency plan and a Spill Prevention, Control and Countermeasure ("SPCC") Plan that will be kept on-site in the event that there are drilling fluid leaks.

DEC Comment #11: Please provide additional information pertaining to the dewatering basin proposed for testing the pipeline once it is completed. Specifically we would like to see the following information:

a. Whether the basin is designed for infiltration solely, or for filtering for discharge to surface water as well;
b. The maximum rate at which water will be pumped out of the pipe and into the dewatering facility;
c. The closest or first receiving water to this discharge;
d. Any additional conditions on when this testing will occur (i.e. dry weather, etc.);
e. How long it will take to dewater the entire pipe;
f. The volume of water that will be drained from the pipe into the facility; and
g. The estimated rate at which the dewatering facility will drain.

CHA Response #11: The following is additional information pertaining to the protocol associated with hydrotesting of the pipeline:

a. The dewatering basin is essentially designed to provide an initial containment area for discharged water that may result in infiltration to groundwater through the basin's "floor" comprised of geotextile fabric and filtering through the basin's "walls" comprised of geotextile fabric placed over staked straw bales (see "Hydrotest Discharge Detail" on EPSC Plan Sheet ANGP-T-G-017, dated June 28, 2013). As water collects in the basin, it will ultimately overtop the basin and disperse into the existing grassed and wooded vegetated open space area located downslope of the basin.

b. With approximately 65,000 gallons of water discharging per hour for approximately 20 hours, the maximum rate at which water will be pumped out of the pipe and into the dewatering basin is less than 2.5 cubic feet per second.

c. The closest receiving water to the dewatering basin is "Wetland 2012-CM-1", which is located approximately 100 to 200 feet from the basin.

d. Specific conditions (i.e., dry weather) related to timing of testing include:
   - Seasonal considerations such as freezing in the winter
   - Level of saturation in the soils that underlie the open space area intended to capture overflow from the basin

e. It will take approximately 20 to 24 hours to dewater the entire pipe.

f. The length of the pipeline (42.1 miles) will contain approximately 32,670 gallons of water per mile, which equates to a total approximate volume of 1.375 million gallons of water (approximately equivalent to two Olympic-sized swimming pools) that will be drained from the pipe.

g. The estimated rate at which the dewatering facility will drain is 65,000 gallons per hour.

As always, please do not hesitate to contact me if you have any questions or comments.

Very truly yours,

VANASSE HANGEN BRUSTLIN, INC.

Krista Reinhart, CPESC, CPSWQ, CESSWI
Senior Watershed Scientist

KR/pwe

cc: Kim Hayden
Mark Teixeira
Eileen Simollardes
Charlie Pughe
John Heintz

\\VTDATA\Projects\57563.00 VGS Addison Expansion\reports\Stormwater\DEC Comments_07-08-13\DEC Comments_7-8-13_VGS Responses_07-19-13.doc