## **Vermont Wetland Permit Application/Determination Petition**

QL	JESTION	INSTRUCTIONS AND APPLICANT ANSWER	STAFF NOTE
1.	Applicant #1	If the applicant is someone other than the landowner, the landowner information must also be included below.	
	1.1. Applicant Name	Vermont Gas Systems, Inc. ("Vermont Gas") (Attn: Jean-Marc Teixeira)	
	1.2. Applicant Address	85 Swift Street, South Burlington, VT 05403	
	1.3. Applicant Phone Number	(802) 951-0387	
	1.4. Applicant Email	mteixeira@vermontgas.com	F5147119
	1.5. Applicant Signature (original signature required)	By signing this application you are certifying that all the information contained within is true, accurate, and complete to the best of your knowledge.  X Lan I fan Joseph Date: 4/29/2613	
2.	Representative	Consultant, engineer, or other representative that is responsible for filling out this application, if other than the applicant or landowner	
	2.1. Representative Name	Vanasse Hangen Brustlin, Inc. ("VHB") (Attn: Jeffrey A. Nelson)	
	2.2. Representative Address	7056 US Route 7 North Ferrisburgh, VT 05473	
	2.3. Representative Phone Number	(802) 497-6150	
	2.4. Representative Email	jnelson@vhb.com	
	2.5. Representative Signature (original signature required)	By signing this application you are certifying that all the information contained within is true, accurate, and complete to the best of your knowledge.  Date: 5/2/13	
3.	Landowner	Landowner must sign the application. Use this space if landowner is different from the applicant	
	3.1. Landowner Name	In Attachment 1, the Applicant provides a signed/notarized statement of the Applicant being the responsible party for compliance with terms and conditions imposed by this Permit, which the Applicant understands meets this requirement.	
	3.2. Landowner Address	na	- Fire in the second
	3.3. Landowner Phone Number	na	
	3.4. Landowner Email	na	
	Attach copies of any easements, agreements or other documents conveying permission, and agreement with the landowner stating who will be responsible for meeting the terms and conditions of the permit. List the attachment for this information in this section.  na		
	3.6. Landowner Signature (original signature required)	By signing this application you are certifying that all the information contained within is true, accurate, and complete to the best of your knowledge.	
	(	Date:	



Location description should include the road the wetland is located on, the compass direction of the wetland in relation to the road, 911 street address, if available, and any other distinguishing geographic features.

The proposed Addison Natural Gas Project- Phase I ("ANGP") includes a transmission corridor with a north to south alignment from Colchester to Middlebury, three gate stations, distribution mainlines, and local distribution networks for Vergennes and Middlebury. The ANGP is located in portions of twelve towns in Chittenden and Addison County, including: Colchester, Essex, Williston, St. George, Hinesburg, Monkton, Ferrisburgh, Vergennes, Waltham, New Haven, Weybridge, and Middlebury. The table below provides approximate coordinates of the major Project components:

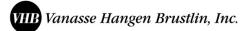
## Location of Wetland and

**Project** 

Approximate Coordinates of Major Project Components					
Project Component		Latitude	Longitude	Town	
Transmission	Start	44°31'35.662" N	73°9'33.275" W	Colchester	
Line	End/Middleb ury Gate Station	44°2'34.3"N	73°9'48.4"W	Middlebury	
	Williston Gate Station	44°26'35.7"N	73°5'53.9"W	Williston	
Gate Stations	New Haven Gate Station	44°9'20.39"N	73°9'44.095" W	New Haven	
	Middlebury Gate Station	44°2'34.3"N	73°9'48.4"W	Middlebury	
Distribution Main  – Williston	Start/ Williston Gate Station	44°26'35.7"N	73°5'53.9"W	Williston	
Distribution Main	End	44°26'40.031" N	73°5'58.396" W		
Distribution Main - Vergennes	Start/ New Haven Gate Station	44°9'20.3"N	73°9'43.4"W	New Haven	
Distribution Main	End	44°9'26.5"N	73°11'51.9"W	Waltham	
Distribution Main - Middlebury	Start/ Middlebury Gate Station	44°2'34.3"N	73°9'48.4"W	Middlebury	
Distribution Main	End	44°1'42.1"N	73°10'15.7"W	Middlebury	
Local Distribution Network - Vergennes		(vari	ous)	Vergennes	
Local Distribution Network - Middlebury		(vari	ous)	Middlebury	

The table below provides public roads nearest and best used to access Project components:

Public Roads Nearest to Major Project Components			
Project Component	Town	Road Access	
Transmission Line – Start ("Colchester Tie-In")	Colchester	Severance Road (east of US Route 2 and 7)	



		Transmission Line End / Midd Gate Station / Middlebury Dist Main Start		Middlebury	Exchange Street (east of US Route 7)
		Williston Gate Station		Williston	US Route 2 (east of VT Route 2a)
		Williston Distribution Main S Williston Gate Station and		Williston	US Route 2 (east of Route 2A)
		Vergennes Distribution Main New Haven Gate Station		New Haven	Plank Road (east of North Street)
		Vergennes Distribution Main	- End	Waltham	Plank Road (east of US Route 7)
		Middlebury Distribution Main	- End	Middlebury	Exchange Street
		Local Distribution Network - Ve	rgennes	Vergennes	Throughout Vergennes
		Local Distribution Network - Mid	ddlebury	Middlebury	Throughout Middlebury
		The various wetlands included Project corridor. For general s included in Attachment 2.			
		Date of visit with District Wetlands Ecologist			r site visits including and representatives.
5.	Site Visit Date and Attendees	• October 4, 2012	•	Alan Quackenb (Department of	ush, Nina Kalantari Environmental Conservation tlands Section); Chelsea
		The wetland is a Class II we	etland be		e one):
		Class II wetlands and buffers very to the 2010 Vermont Wetland as Class II when:			
		<ul> <li>Wetland me</li> </ul>	ets a Sec	s with a mapped- tion 4.6 Presump on 5 Functional C	
6.	Wetland Classification	The Addison Natural Gas Project-Phase I-Spring 2013 Natural Resource Studies Supplemental Memorandum in Attachment 5 includes complete wetland summary tables as well as maps of wetlands delineated for the entire Project study area and is inclusive of the wetlands included in this Application/Determination petition. This memorandum supplements the Section 248 Natural Resources Report - ANGP that was revised base on Project changes, dated 2/26/13, the text of which is included in Attachment 5. Initial wetland classifications made for the entire area studied were compiled and transmitted to the VT DEC Wetland Ecologist via letter, dated 11/16/12, for review of the delineations/classifications conducted to that date. A copy of this letter is included in Attachment 5. Finally, the Wetland Delineation Review and Classification Verification Letter Supplemental Description includes further description of specific wetland features identified by DEC Wetlands during a March 15, 2013 meeting to review the components of the original VGS Individual Wetland Permit application and determination petition for ANGP, submitted on December 20, 2012. Wetland classification rationale (presumptive criteria and significant functions			
7.	Description of Entire Wetland or Wetland Complex	provided) for the wetland or wetland buffer included in this application are summarized in the impact summary spreadsheet included in Attachment 4.  Answer the following questions regarding the entire wetland or wetland complex. A wetland complex is generally defined as two or more wetland types that are contiguous and interrelated. Specific questions about the wetland in the project area will follow.			
		These wetland and wetland	comple	x descriptions a	are summarized in the



	summary table following this section:	
	Vermont Wetland Permit Section 7 – Description of Entire Wetland or Wetland Complex	
7.1. Size of Wetland	Can be obtained from the Environmental Interest Locator Map for mapped wetlands	
Complex in Acres	See wetland and wetland complex descriptions on the following table.	
7.2. Natural Community Types Present	List all wetland types in the wetland or wetland complex and their abundance or relative abundance. For example: 50 acres of softwood forested swamp; or 30% scrub swamp, 70% emergent wetland  See wetland and wetland complex descriptions on the following table.	
7.3. Landscape Position	Where is the wetland located on the landscape? Examples: bottom of a basin, edge of a stream, shore of a lake, etc.  See wetland and wetland complex descriptions on the following table.	
	Describe the main source of wetland hydrology for the wetland complex. List any river, streams, lakes and ponds.	
7.4. Wetland Hydrology	See wetland and wetland complex descriptions on the following table.	
7.4.1. Direction of flow	For example: stream flows from north to south through the wetland complex.  See wetland and wetland complex descriptions on the following table.	
7.4.2. Influence of hydrology on wetland complex	For example: The river provides flood water to the wetland in the spring.  See wetland and wetland complex descriptions on the following table.	
7.4.3. Relation to the project area	Distance between the project area and any nearby surface waters.  See wetland and wetland complex descriptions on the following table.	
7.4.4. Hydroperiod	Discuss frequency and duration of flooding, ponding, and/or soil saturation.  See wetland and wetland complex descriptions on the following table.	
7.5. Surrounding Landuse of the Wetland Complex	For example: rural residential and forested; agricultural and undeveloped,  See wetland and wetland complex descriptions on the following table.	
7.6. Relation to Other Nearby Wetlands	Provide any information on wetlands or wetland complexes that are close enough to contribute to the overall function of the wetland in question.  See wetland and wetland complex descriptions on the following table.	
7.7. Pre-project Cumulative Impacts to the Wetland	Identify any cumulative ongoing impacts outside of the project that may influence the wetland. Examples include but are not limited to wetland encroachments off the subject property, land management in or surrounding the wetland, or development that influences hydrology or water quality.  See wetland and wetland complex descriptions on the following table.	



Description of Subject     Wetland	Subject Wetland is defined as the area of wetland in the project area, but not limited to the portion of the wetland to be directly impacted by the project. For the purposes of this application, the subject wetland should encompass any portion of the larger wetland or wetland complex that could be directly or indirectly impacted by the project, as defined by hydrology, vegetation and/or physical characteristics.  These subject wetland descriptions are summarized in the summary table following this section:	
	Vermont Wetland Permit Section 8 – Description of Subject Wetland	
8.1. Context of Subject Wetland	Describe where the subject wetland is in the context of the larger wetland or wetland complex described above.	
	See subject wetland descriptions on the following table.	
8.2. Wetland Landuse	For example: mowed lawn; old field; naturally vegetated. Describe any previous and ongoing disturbance in the subject wetland.	
o.z. Wettaria Laridade	See subject wetland descriptions on the following table.	
9.2 Wotland Varatation	List dominant wetland community type and associated dominant plant species.	
8.3. Wetland Vegetation	See subject wetland descriptions on the following table.	
8.4. Wetland Soils	Use USDA NRCS information where possible and use the ACOE Delineation Manual soil description	
6.4. Welland Solls	See subject wetland descriptions on the following table.	
	Use descriptions from the ACOE Delineation Manual.	
8.5. Wetland Hydrology	See subject wetland descriptions on the following table.	
8.6. Buffer Zone	Describe the buffer zone of the subject wetland including:	
8.6.1. General landuse	For example: mowed road shoulder; forested; old field; paved road and residential lawns etc. Describe any previous and ongoing disturbance in the buffer zone.	
	See subject wetland buffer descriptions on the following table.	
	List community type and dominant plant species	
8.6.2. Buffer vegetation	See subject wetland buffer descriptions on the following table.	
8.6.3. Buffer soils	Use USDA NRCS information where possible, and the ACOE Delineation Manual soil description See subject wetland buffer descriptions on the following table.	
	Coo dasjoot welland bunter descriptions on the following table.	



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9. Wetland D	etermination	If the application involves a wetland determination please answer the following. If not, skip to Section 10.	
9.1.	Reason for	Please choose one from the dropdown menu:	
	Petition	Add a Section 4.6 presumed wetland to the VSWI map.	_
9.2.	Previous Decisions	Please list all determinations and decisions, if any, issued by the Secretary, Panel or former Water Resources Board, pertaining to the wetland or buffer at issue:  Through pre-application with the VT DEC Wetland Ecologist and principal land managers with the VT Agency of Transportation ("VTrans") and the Vermont Electric Power Company, Inc. ("VELCO"), the Applicant understands that the Project is not subject to former wetland determinations that may have been made under the former VT Wetland Rules by the Vermont Agency of Natural Resources ("ANR") Secretary, Panel, or former Water Resources Board that may have occurred as part of other	
9.3.	Narrative	Please provide any narrative to support the petition for a wetland determination here. This section is not required for petitions to add a Section 4.6 presumed wetland to the VSWI map, but is required for all other petitions.  Not applicable.	
If t	he application is	only for a Wetland Determination only, skip to Section 13	
10. Project Des	scription		
10.1. Ove	rall Project	Description of the project. For example: six-lot residential subdivision; expansion of an existing commercial building, access drive to a single family residence.  The ANGP will involve the extension of Vermont Gas Inc.'s existing Transmission Mainline system south from Colchester to Middlebury, the construction of Gate Stations to step the pressure down, and the construction of Distribution Mainlines from the Transmission Mainline to Vergennes and Middlebury. When completed, Vermont Gas estimates that it will serve approximately 3,000 new residential and business customers in Addison County, mainly in Vergennes and Middlebury, serving Middlebury Industrial Park occupants and other large employers such as, Middlebury College, Porter Medical Center, and Addison County Asphalt, while providing additional "backfeed" capability to enhance the reliability of service to existing Vermont Gas customers in Chittenden County. The Project will also allow Vermont Gas to advance its longer-term goal to extend service to the Rutland area.  The Applicant initially submitted an application for authorization under the Individual Vermont Wetland Permit on December 20, 2012, based on a Project alignment and configuration herein referred to as the "Initial Proposal". Since the original application material was submitted, which occurred concurrently with the Project's petition to the Vermont Public Service Board ("PSB") for a Certificate of Public Good ("CGP"), the Project received various stakeholder comments on the Initial Proposal, which necessitated subsequent revisions. Revisions were made to address constructability and practicability concerns in the Initial Proposal, notably a strong public sentiment within multiple towns in Addison and Chittenden Counties to move the transmission mainline alignment away from public roadways and away from developed areas. As such, the Project's "Section 404 Alternatives Analysis" (Attachment 7) has been updated, to now reflect the alternative described therein as 5b, also known as the "2/28/	



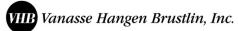
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	Approximately 41.1 miles of new 12-inch transmission pipeline, extending from a new tie-in at the existing Vermont Gas 10-inch mainline north of Severance Road in Colchester (the "Colchester Tie-In"), Vermont, to the intersection of U.S. Route 7 and Exchange Street in Middlebury, Vermont (the "Transmission Mainline");	
	Approximately 5.1 miles of new six-inch distribution mainlines ("Distribution Mainlines") that will extend distribution service to Williston (0.1 miles), Vergennes, (3.7 miles), and Middlebury (1.3 miles);	
	3. Three new pressure regulation stations ("Stations" or "Gate Stations"), one located near Route 2 in Williston to reinforce the existing distribution system, one south of Plank Road in New Haven, and the third north of the intersection of U.S. Route 7 and Exchange Street in Middlebury, which will connect to new distribution networks in Vergennes and Middlebury;	
	4. Temporary construction accesses and material laydown/construction equipment staging areas to be utilized during Project construction. Additional temporary work spaces ("ATWS") will be needed in certain locations of the Project corridor. Two "off-corridor" temporary laydown/staging areas will be utilized southeast of the Route 2 and 2A intersection in Williston and northeast of the intersection of Plank Road and Lime Kiln Road in New Haven;	
	5. Additionally, for purposes of the Vermont Wetland Permit, would include local distribution network lines in Vergennes and Middlebury (including a small portion of Weybridge). The exact locations of these lines are not yet designed, but have been approximated for studies conducted as part of the Vermont Wetland Permit Application materials. With exception of three crossings of the Otter Creek including one crossing in Vergennes and two crossings Middlebury (via HDD), all work associated with the distribution networks is planned to occur within developed areas (e.g., roadways) and no impacts are anticipated, except as noted herein.	
	As presented in the Application material in more detail, the 4/30/13 Alignment represents more impact Class II Wetlands and Buffers than the Initial Proposal, although all wetland impacts would be either temporary or secondary. As noted above and since the original application was submitted, the Initial Proposal has been found to not be practicable, hence this revised Application.	
	Plans for the ANGP are provided in Attachment 3, including details on areas that would be horizontally directionally drilled ("HDD"),and selected details pertaining to work in wetlands (or waters). (See the Vermont Gas – ANGP – CWA Sections 404/401 Permit Applications - Selected Details (8.5" x 11", black-white), Prepared by CHA Inc. and VHB, dated December 20, 2012, Revised: May 3, 2013 in Attachment 3. The estimated alignments for the local distribution network are graphically depicted to occur within the VHB study limits, shown on the Natural Resources mapping in the Attachment of the Natural Resources Summary Memorandum Attachment 5).	
	For example: To construct a residential subdivision, upgrade existing road to improve access, extend a trail system	
10.2. Project Purpose	The purpose of the ANGP is to expand natural gas availability in Vermont to Addison County; provide economic benefits to new Vermont Gas customers; increase reliability of service for existing customers in Chittenden and Franklin Counties; support Vermont Gas' long-term goal of future expansion toward Rutland and connection to the U.S. natural gas system; and environmental benefits resulting from reduced carbon dioxide emissions from both heating fuel combustion and fuel delivery trucks.	
	Acreage of subject property.	
10.3. Acres Owned by Applicant	Although the Applicant will be wholly responsible for the compliance with terms and conditions of the Permit, the Applicant does not currently own the land on which Project components would be sited. As part of the Project the Applicant is seeking agreements to secure permanent and temporary right-of-way (ROW) easements within private lands and the right to cross or otherwise co-locate on lands with existing easements.	



	Acreage of area involved in the project.  Acreages Approximated Project Limits:	
10.4. Acres Involved in the Project	Transmission Line: 350-acres Gate Stations: 1.4-acres Distribution Main (to Williston)- 0.06-acres Distribution Main (to Williston)- 0.06-acres Distribution Main (to Williston)- 0.06-acres Distribution Main (to Middlebury): 4.3-acres Construction Access/Staging: 3.7-acres/22-acres Local Distribution Network – Vergennes (5'wide disturbance estimated): 8-acres Local Distribution Network – Middlebury (5'wide disturbance estimated): 22-acres  Total: 418-acres Note: Per the Project's Individual Construction Stormwater Discharge Permit ("INDC") Application, 340 acres of soil would be disturbed per the Erosion Prevention and Sediment Control ("EPSC") plans.  Assumptions include:  - Local networks  - 5' disturbance  - Does not include HDD stating/pull-backs - Includes 'overlap' with distribution mainline to Middlebury per VGS alignments provided  - Construction access does not include existing access roads - Staging includes the whole area of the two off-corridor sites (Target Site and Plank Rd) as shown on INDC maps - Gate stations includes 3 gate stations (does not include Colchester Tie-In, or other MLVs) - Transmission mainline includes MLVs/easements/ATWS/Trench/Colchester Tie-in & dewatering area	
11. Project Details	Provide details regarding specific impacts to the wetland and buffer zone	
	List portions of the project that will specifically impact the wetland or buffer zone.  The proposed construction of the Project would result in the permanent discharge of	
	fill material, temporary impacts, and other permanent impacts to proposed Vermont Class II Wetland and/or Buffer. In general summary, each impact type would consist of the following activities:	
11.1. Specific Impacts to Wetland and Buffer Zone	Wetland Fill: There will be no impacts to wetlands from fill.     Temporary Impacts: Trenching for underground pipeline placement in nonforested wetland; or temporary forest clearing for construction access outside the permanent maintained corridor;     Other Permanent Impacts: Forested wetlands within the Project permanent corridor that will be cleared and maintained in non-forest condition  Class II Wetland Buffer     Fill: Permanent Class II wetland buffer impacts will occur for the access to	
	<ul> <li>Prin. Permanent Class if wetland burier impacts will occur for the access to one gate station location ("Plank Road Gate Station")</li> <li>Temporary Impacts: Trenching for underground pipeline placement in nonforested wetland buffer, or temporary forest clearing for construction access outside the permanent maintained corridor; and</li> <li>Other Permanent Impacts: Forested buffer to Class II wetland within the Project permanent corridor that will be cleared and maintained in non-forest condition</li> </ul>	
	<b>Note:</b> On and off-corridor construction access within Class II wetlands will occur via the use of construction matting or temporary surface per the EPSC Plan, which is not included in proposed impacts. Where temporary impacts from trenching occur in areas that would be permanently impacted by forest clearing within the permanent ROW, the permanent impacts are those proposed for Permit coverage. Also, activities within existing developed areas that occur within Class II wetland buffer,	



	such as roadway surface, are not included in the proposed wetland buffer impacts.  Attachment 4 provides a tabulated summary of proposed impacts to Class II wetlands and/or buffers, and also provides detailed exhibits for the proposed impacts.	
11.2. Dimension Details	In general, the following dimensions are proposed, or estimated for the Project components that relate to impacts proposed in this permit application (see the EPSC Plan Set included in Attachment 3 for all Project plan details, including typical):  Transmission Mainline:  • 50-foot maintained ROW, centered on buried pipeline  • 25-foot temporary work access, adjacent to the permanent proposed ROW  • Where co-located with existing overhead electric transmission corridors, the ROW and work access is variable by specific location  • 12" pipe, buried 3-7-feet below ground  • Off-ROW temporary access roadway: 15-feet wide average  • Colchester Tie-In: 35'x70' gravel pad with 25' permanent perimeter clearing  Gate Stations:  • Williston Gate Station- 55 x 85 foot fenced in area  • New Haven Gate Station- 55 x 85 foot fenced in area  • Middlebury Gate Station- 55 x 85 foot fenced in area  • Middlebury Gate Station- 55 x 85 foot fenced in area  • Located within existing roadway shoulder  • 6" pipe, buried 3-feet below ground  Local Distribution Networks:  • Located within existing roadway or shoulder  • Work limited to existing roadway or staging in existing developed areas  • 3" pipe, buried 3-feet below ground	
	<ul> <li>One Otter Creek (Vergennes) crossing via HDD</li> <li>Two Otter Creek (Middlebury) crossings via HDD.</li> </ul> Culvert circumference, length, placement and shapes, or bridge details.	
11.3. Bridges and Culverts	The Project will involve several stream crossings for the pipeline burial, which will be constructed either through temporary open-trenching (flow diversion or use of coffer dams) or horizontal directional drilling ("HDD") (See the EPSC Plan Set details and HDD and HDD Detail Sheets and Table in Attachment 3).  No permanent bridges or culverts are proposed. Temporary bridging of stream channels, where necessary, will be conducted according to the EPSC Plan Set details (Attachment 3), typically via the use of construction mat bridges. Temporary off-ROW access road stream crossings will also be temporarily bridged if necessary. The EPSC Plan Set provides the construction method and stream crossing details.	
11.4. Construction Sequence	Describe any details pertaining to the worked planned in the wetland and buffer in terms of sequence or phasing that is relevant  The sequence of construction phasing will be conducted according to the Construction and Stabilization Phasing Plan notes included in the EPSC Plan Set and the INDC Application.  Notes related to the specific construction activity sequencing are included in the Construction EPSC Notes, included in the EPSC Plan set. In summary, where installation of the pipeline will be occurring within a wetland, the Project will follow the	
	<ul> <li>Flagging of resource areas (e.g., wetlands, Rare Threatened and Endangered (RTE) plant species, and archeologically sensitive areas) per the project's environmental permits and Erosion Prevention and Sediment Control (EPSC) Plan set (see Attachment).</li> <li>Installation of EPSC measures (e.g., project demarcation and perimeter controls) pursuant to the construction phase stormwater discharge permit, the EPSC Plan set, The Vermont Standards and Specifications for Erosion</li> </ul>	





11.5. Stormwater Design	List any stormwater permits obtained or applied for. Describe any stormwater and/or erosion controls proposed to prevent discharges to the wetland and buffer zone.  As the Project would require soil disturbance, the Project has applied for an INDC.  The Project has developed an EPSC Plan for approval prior to Project construction, which is included in Attachment 3. The narrative describing the proposed EPSC Plan and construction stormwater discharge controls provided as part of the INDC application is also included in Attachment 3.  In general summary, EPSC measures that are applicable to work proposed in Class II wetland or buffers may include but are not limited to:  Resource flagging (e.g. wetlands, streams) prior to any construction related activities.  2 to 3 rows of staked (or stapled) 3-inch orange barrier mesh tape, orange construction fence, or orange snow fence.  Reinforced silt fence – to be reinforced with wire mesh, staked haybales, staked fiber rolls, erosion control mix berms, or wood chip berms.  Maintaining vegetated buffers to water bodies (e.g. wetlands and streams).  Placement of construction mats for temporary access.  Diversion swales and berms  The implementation of the approved EPSC measures would comply with the Vermont Standards and Specifications for Erosion Prevention and Sediment Control (2006), and be subject to the requirements of the INDC.  The total amount of impervious area proposed for the Project is less than the threshold(s) required to obtain operational phase stormwater discharge permit coverage.	
11.6. Permanent  Demarcation of Limits  of Impact	Describe any plantings, fencing, signage, or other memorialization that provides permanent on-the-ground boundaries for the limits of disturbance for ongoing uses.  According to details 3, 4, 5 and 6 on Sheet G-012 of the EPSC Plan Set (Attachment 3), the limits of impact will be demarcated prior to activities within Class II wetland and/or buffer, as described in Block 11.5,  No permanent demarcation via artificial memorialization is proposed as ongoing uses associated with the Project will be limited to routine line inspections and periodic vegetation maintenance within the established permanent ROW or line corridor. The cleared and maintained vegetation will demarcate the permanent impact limits.	
12. Wetland & Buffer Zone Impacts		
12.1. Wetland Impacts	Summarize the square footage of impact in the appropriate category. If more than one wetland is impacted, provide that information and use the supplemental wetland sheets.  Totals  Permanent Wetland Impact Temporary Wetland Impact 115,125 s.f. Other Permanent Wetland Impact 160,752 s.f.  Describe in detail the proposed impact. See the Class II Wetland and Buffer Impact Analysis (summary table) located in Attachment 4 for details.	



12.2. Buffer Zone Impacts	Summarize the square footage of impact in the appropriate category. If more than one wetland is impacted, provide that information and use the supplemental wetland sheets.  Totals  Permanent Buffer Impact  Temporary Buffer Impact  Other Permanent Buffer Impacts  127,815 s.f.  Other Permanent Buffer Impacts  (continued)  Describe in detail the proposed impact.  See the Class II Wetland and Buffer Impact Analysis (summary table) located in
	Attachment 4 for details.  List any potential cumulative or ongoing, direct and indirect impacts on the
12.3. Cumulative Impacts	functions of the wetland that could result from the proposed project.  No cumulative impacts are ongoing, or foreseeable, to the wetlands proposed for impact. Future maintenance of the transmission line would occur within wetland and buffers, subject to a vegetation management plan, included in Attachment 6.
12.4. Avoidance and Minimization	Please refer to Section 9.5b of the rules on Mitigation Sequencing for this section.
12.4.1. Avoidance	Can the proposed activity be practicably located outside the wetland/buffer zone, or on another site owned or controlled by the applicant or reasonably available to satisfy the basic project purpose? If not, indicate why. This answer should include any examination of alternatives that you have explored including using other properties, requesting easements, and altering the project design.  To realize the Project's purpose, while avoiding and minimizing impacts to natural resources to the greatest extent practicable, the Applicant evaluated a number of conceptual alignments for the ANGP. In January, 2012, the Applicant convened an Advisory Group of potential Project stakeholders, including state and federal resource agency staff. The purpose of the Advisory Group was to develop recommendations regarding the configuration of the ANGP and its alternative alignments that help realize the Project purpose. Interaction with the Advisory Group helped narrow the number of Project conceptual alignments and select the route alternatives to study in more depth. Over the course of several meetings between January and February 2012, the Applicant provided the Advisory Group with preliminary engineering feasibility and environmental impact analyses for a variety of alternatives to extend service to Addison County.  As part of the Project's application to the U.S. Army Corps of Engineers ("USACE") for an Individual 404 Permit (and 401 WQC), are detailed descriptions of VGS's review of five conceptual transmission alignments, from which a preliminary alignment was selected. Detailed natural and cultural resource studies, and design considerations were applied to the preliminary alignments were also considerations were applied to the preliminary alignments were also considered. Following the filing of the Initial Proposal in December 2012 stakeholder and constructability issues were raised that made the initial selected alignment impracticable. As such, the Project's "Alternatives Analysis for Section 404/Section 10 Review (Att



damaging practicable alternative to realizing the Project's purpose.

The following sections outline the Project's process of avoiding and minimizing impacts to natural resources, and the mitigation proposed under the USACE permit application:

#### Proactive Investigations/Coordination

The Applicant undertook early in the Project process, to conduct complete natural resources assessments within the entire proposed Project area. Due to the limited window of time that is considered appropriate for certain natural resources [i.e., vernal pools and rare, threatened, or endangered ("RTE") plant species], assessments were started in early Spring 2012, and continued through Spring of 2013. The purpose of these assessments was to identify wetlands, streams and other natural resources prior to the design phase of the Project in order to best avoid and minimize impacts early in the design process. As described in the *Addison Natural Gas Project – Phase I-Spring 2013 Natural Resource Studies Supplemental Memorandum* in Attachment 5, preliminary wetland boundary and classifications are used within five areas where detailed information is not yet able to be collected due to private property access denial (in these areas, approximated wetland resources are mapped based on conservative over-estimates of resource locations).

As stated above, the Applicant coordinated with the various stakeholder agencies early in the Project process, including throughout the course of the preparation of the required permit applications, including USACE, the U.S. Environmental Protection Agency ("USEPA"), the VT DEC Watershed Management Division ("WMD"), and the VT Department of Fish and Wildlife ("VTDFW"). The purpose of these efforts was to incorporate agency guidance and suggested design revisions when practicable, and to assess permitting needs as the Project developed. By applying the following avoidance, minimization, and other mitigation measures, the Applicant has avoided permanent impacts to wetlands resulting from the installation of the Project.

#### Direct Avoidance of Wetland/Waters Impact

The Project design has been re-routed in numerous locations to avoid wetland, waters and other natural resources (i.e., forested uplands), resulting in location shifts to approximately 51 percent of the preliminary alignment initially selected for further study. The following are primary examples where significant re-alignments have avoided more impact to aquatic resources:

- Redmond Road Re-Route (Williston) This re-route moved the initial
  planned transmission pipeline route from a forest block within the
  undeveloped Chittenden County Circumferential Highway ("CCCH") corridor
  to follow the Redmond Road corridor. The result reduced impact to
  contiguous forested block, vernal pool envelope, and reduced direct wetland
  area by approximately 2.1 acres;
- The Project design has incorporated various measures to avoid permanent impacts to stream channels, including the use of horizontal directional drilling ("HDD") at several locations [including the "Mt. Florana (a.k.a. Monkton) Swamp"], the use of temporary bridges to cross streams where applicable, and the restoration (including re-vegetation) of riparian areas directly after completion of construction activities;
- The Project design incorporates the use of HDD for the Project transmission component at 16 locations to avoid impacts to streams, rivers, wetlands, and other sensitive resources, and in 12 of these locations, direct impacts from soil disturbance to wetland resources are avoided (approximately 6.7-acres are avoided);
- Project components requiring construction of permanent above-ground facilities (e.g. Gate Stations) are sited to avoid direct impacts to aquatic resources;
- Project construction staging/laydown areas are sited to avoid direct impacts to aquatic resources where



•	Temporary off-corridor accesses are sited to utilize existing roads where
	able, or avoid temporary access through aquatic resources to the extent
	practicable; and

 Only one, permanent off-corridor construction access route will be constructed, and will avoid impacts and new impervious area.

If the proposed activity cannot practicably be located outside the wetland/buffer zone, have all practicable measures have been taken to avoid adverse impacts on protected functions? Please include any information on on-site alternatives that have been examined; minimizing the size and scope of the project to avoid impacts; or relocating portions of the project to avoid impacts

#### Minimization of Unavoidable Impacts

- The Applicant coordinated with the various stakeholder agencies throughout the course of the application preparation, including USACE, USEPA, U.S. Fish and Wildlife Service ("USFWS") and the VT DEC-WMD. The purpose of these efforts was to incorporate agency guidance and suggested minimization options, and to assess permitting needs as the Project developed;
- The Project has been sited to the extent feasible to utilize existing
  developed corridors to minimize impacts from new clearing on aquatic
  resources. Examples of this include either using or following the built
  CCCH, Interstate 89, VELCO transmission, and following existing roadways
  for the Distribution Mainline and local networks:
- The planned Project construction width within certain segments of the transmission mainline has been reduced from 75-feet to 50-feet at 36 wetland areas, to reduce temporary impacts from construction. The areas that could be narrowed were determined following review by the Project engineer of the type of natural/water resources present, existing land uses and constraints, topographic conditions, existing access points, and alternative construction methods:
- The co-location of several miles of proposed transmission line within or immediately adjacent to the existing cleared overhead utility line, minimizing the amount of forested wetland or buffer requiring permanent clearing (notably, within Class II wetland north of Charlotte Road in Hinesburg (2012-JB-31)], the northern approach to the Monkton Swamp in Monkton [2012/2013-PW-67], and west of North Street in New Haven [2012-RS-29, as also noted below);
- Impacts from temporary work activities within streams, wetlands, and wetland buffers will be minimized through restoration of such areas to preconstruction contour and substrate condition, and re-vegetated;
- The location of new, temporary access routes located to avoid impacts to the extent practicable;
- Impacts are minimized within the transmission mainline component by avoiding the creation of permanent on-corridor access roadways;
- Impacts to wetlands are minimized through the use of construction mats placed within wetland areas to be used for construction vehicle access and for trench soil stockpiling during line placement; and
- Impacts to streams are minimized through the use of temporary bridging, where appropriate, for construction access; maintenance of stream flow either through the work area (via use of flumes or pump-arounds), or flow diversion around the temporary work area during in-stream work.
- Use of Horizontal Direct Drilling ("HDD") where feasible to avoid impacts to streams, rivers and other sensitive resources. (See the Horizontal Directional Drill Table and Detail cutsheets in Attachment 3)
- The development of a Vegetation Management Plan- Transmission Main for the ANGP (Attachment 7) to minimize long-term impacts to natural resources, which would be impacted by ANGP construction, by the use of alternate vegetation management techniques to allow for the maximum regrowth of woody vegetation in unique natural communities and forested wetlands and stream buffers and the protection of RTE species.
- Narrowing the width of the Transmission Mainline construction corridor in

#### 12.4.2. Minimization



	specific locations, from 75 feet, to 50 feet, to minimize tree clearing and other potential impacts, including the following examples:  At mile post ("MP") 9.8 to MP 10.1: approximately a 1,600-foot distance to minimize wetland\buffer impacts in Williston (2012-CM-78);  At MP 19.2 to MP 19.45: approximately a 1,300-foot distance to minimize wetland impacts in Hinesburg (2012-JB-31);  At four locations between MP 20.80 to MP 26.99: for approximately a 5,900-foot total distance to minimize wetland/buffer, stream, natural community and tree clearing impacts in Hinesburg and Monkton;  At MP 29.75 to MP 31.58: approximately a 9,650-foot distance to minimize wetland\buffer, stream, natural and tree clearing impacts in Monkton and New Haven as well as minimize impacts to a large Red Maple Green Ash Swamp natural community in New Haven (2012-RS-29)  At MP 36.37 to MP 37.24: approximately a 4,600-foot distance to minimize wetland/buffer impacts at the Monkton swamp (2012-CM-160/161); and  At MP 36.37 to MP 37.24: approximately a 4,500-foot distance to minimize wetland/buffer impacts in New Haven.	
12.4.3. Mitigation	If avoidance of adverse effects on protected functions cannot be practically achieved, has the proposed activity has been planned to minimize adverse impacts on the protected functions and a plan has been developed for the prompt restoration of any adverse impacts on protected functions? Include any information on best management practices to be used for the project both for the initial construction and ongoing use. Also include any proposed restoration of temporary impacts, previously disturbed wetland or buffer zones or proposed conservation that are being used to offset the proposed impacts.  Best Management Practices The Applicant has incorporated numerous Best Management Practices ("BMPs") into the Project design in order to further reduce impacts to natural resources within the Project area.  • The development and implementation of a site-specific Erosion Prevention and Sediment Control ("EPSC") plan in order to protect those wetlands (and other natural resources) not directly impacted by the Project; • On-Site Plan Coordinator and EPSC Specialist tasked with ensuring adherence to and maintenance of the approved construction and EPSC Plan Set; • The demarcation of the limit of disturbance within the permitted limits of disturbance prior to construction in order to prevent unintended incursions into features not permitted to be impacted; • The installation of EPSC measures prior to construction in order to prevent uncontrolled runoff from impacting features not permitted to be impacted; • A sequence of construction which minimizes the area of earth disturbance occurring at any one time, in one location;	
	<ul> <li>The use of topsoil segregation in wetlands and restoration of all temporary disturbance areas resulting from Project construction, including the restoration of pre-construction grade, seed application, and mulching;</li> <li>Control of invasive plant species through the use of BMPs, described in guidance included in the EPSC Plan notes.</li> <li>Please refer to Section 9.5c of the rules for compensation, which is</li> </ul>	
12.4.4 Compensation	appropriate when the project will result in an undue adverse impact. If compensation is proposed please include a summary here.  Compensation as may be required by the USACE for unavoidable impacts to wetlands and waters, is proposed by the Applicant through contribution to the Vermont <i>In-lieu</i> Fee (ILF) program, which in Vermont is administered by Ducks Unlimited, Inc. The final calculation of required mitigation credits and resulting fee is subject to approval by the USACE. Based on the Applicant's extensive use of avoidance and minimization measures, and the proposed contribution to the Vermont ILF, the proposed impacts should not be considered undue, and no further compensation is proposed.	

13. Supporting materials		Where appropriate list the accompanying material by title, author, date and last revision date. Submit these documents and plans with the application.	
13.1.	Location map	Provide a project location map that is 8 ½" x 11" and reproducible in black and white. An Environmental Interest Locator Map is appropriate using the USGS topography map base layer, roads, and VSWI wetlands at minimum.	
		See Site Location Map in Attachment 2.	
13.2.	Site Plans	<ul> <li>List by title, author, date and last revision date. Plans should include wetland delineation and buffer zones, limits of disturbance, erosion controls, building envelopes and permanent memorialization.</li> <li>Site Plans (Attachment 3): EPSC Plan Set, Vermont Gas Addison Natural Gas Project, prepared by VHB and CHA, dated 4/30/2013</li> <li>Vermont Gas – ANGP – CWA Sections 404/401 Permit Applications - Selected Details (8.5" x 11", black-white), Prepared by CHA and VHB, dated December 20, 2012, Revised: May 3, 2013</li> <li>Horizontal Directional Drill (HDD) Table (Attachment 3), dated May 3, 2013</li> <li>Horizontal Directional Drill (HDD) Detail Cutsheets (Attachment 3), dated May 3,2013</li> <li>Impact Exhibits (Attachment 4): Class II Wetland and Buffer Impacts Exhibits, prepared by VHB, dated May 3, 2013</li> </ul>	
13.3.	ACOE Delineation Forms	List by author, location, and date. Required only for Individual Permits.  (Attachment 5) See Appendix 3 of the Section 248 Natural Resources Report, prepared by VHB, revised dated February 26, 2013	
13.4.	Other Supporting Documents	<ul> <li>Provide any other documentation that supports the application. List photographs; easements; agreements; may include a GIS-compatible wetland submittal for determinations; etc.</li> <li>In Attachment 5, see the Section 248 Natural Resources Report, prepared by VHB, dated February 26, 2013. This report includes the following applicable documentation:         <ul> <li>Report (Introduction, Project Description, Existing Conditions, methods/results for Section 248 "natural environment" criteria evaluations</li> <li>Study area natural resource mapping (the Natural Resource Series maps in this report are superseded by the Supplemental Natural Resources Memorandum in Attachment 3</li> <li>Wetland/waters information and representative photographs</li> <li>RTE, natural community, and wildlife habitat information</li> </ul> </li> <li>Wetland Delineation and Initial Classification Summary Letter, dated November 16, 2012 (letter only)</li> <li>Wetland Delineation Review and Classification Verification letter Supplemental Description, dated April 5, 2013</li> <li>Addison Natural Gas Project – Phase I- Spring 2013 Natural Resource Studies Supplemental Memorandum, dated April 26, 2013</li> </ul>	
13.5.	List of Abutters (Neighbors with land adjoining wetland or buffer zone)	Attach list of names and mailing addresses or submit as word mailing document.  Abutting landowners of the proposed Project impacts will be notified by the Applicant when the Project Individual Wetland Permit Application is determined to be technically complete. The list and contact information of Project abutters is provided in Attachment 7. Abutters are also included on the proposed impact summary table and depicted on the impact exhibits, both included in Attachment 4.	



	If choosing the option to fulfill the notice requirement with a newspaper notice, list the newspaper to be used here. A list of names and addresses for immediately adjacent landowners (500 foot radius) of the project area is required for the List of Abutters. ***NOTE: The applicant will be billed directly by the newspaper you list here. Use of the newspaper notification may extend the notice period, depending on when the notice posts in the newspaper.	
13.5.1. Newspaper Notification	Burlington Free Press classified@bfp.burlingtonfreepress.com 802-658-3321	
	Addison Independent P.O. Box 31 Middlebury, Vt. 05753 802-388-4944	
	classifieds@addisonindependent.com	



# Vermont Wetland Section Wetland Application Database Form (AFFIX TO THE FRONT OF THE APPLICATION)

Applicant Name: Vermont Gas Systems, Inc.	Representative Name: Vanasse Hangen Brustlin (VHB)			
<b>Town where project is located:</b> Colchester, Essex, Williston, St. George, Hinesburg, Monkton, Ferrisburgh, Vergennes, Waltham, New Haven, Weybridge, and Middlebury	County: Chittenden and Addison			
<b>Project Location Description:</b> 911 Street Address or direction nearest intersection	See <b>Section 4</b> for detailed Project location description			
<b>Project Summary:</b> Construction of a natural gas transmission to extend natural gas service from Colchester to Middlebury and Ve	mainline, gate stations, distribution mainline, and local distribution network rgennes, Vermont			
Permit Type Requested (check all that apply)				
☐ Vermont General Permit Coverage ☐ Wetland	Determination			
Impact Calculations:				
<b>Total Wetland Impact</b> 275,877 square feet (s.f.)	<b>Total Buffer Zone Impact</b> 320,645 square feet (s.f.)			
Permit Fees: Make check payable to - State of Vern	nont			
, , , , , , , , , , , , , , , , , , ,	rative Fee: \$120.00			
RUITAL IMPACT FOO. (20) 25/ CEV 2 20 161 25	eck Amount: \$68,000.50(Already 8,812.50 in original application)			
Clearing Fee: (\$0.25/ sf) \$40,188.00				
Existing Land Use Type: (check all that apply)	☐ Residential (Subdivision) ☐ Industrial/ commercial			
$\boxtimes$ Agriculture $\boxtimes$ Transportation $\square$ Parks/Rec/Trail	□ Residential (Single □ Institutional □ Undeveloped □ Family)			
Proposed Land Use Type:  (check all that apply)	Residential (Subdivision) Industrial/ commercial			
☐ Agriculture ☐ Transportation ☐ Parks/Rec/Trail	☐ Residential (Single ☐ Institutional ☐ No Change			
Proposed Impact Type: ☐ Buildings ☐ Utilitie				
☐ Driveway ☐ Road ☐ Parks/Path	☐ Agriculture ☐ Pond ☐ Lawn			
☐ Dry Hydrant ☐ Beaver dam alteration ☐ Silviculture	☐ Aesthetics ☐ Other ☐ No Impact			
TOTAL Wetland : (see the Class II Wetland and Buffer Impact Analysis spreadsheet, Attachment 4 of the Application)				
Wetland Type: WL Size Class :				
Proposed Alterations				
Wetland Alteration: Buffer Zone Alteration:	Wetland Alteration Type (check all that apply)			
Wetland Fill: 0 s.f.	☐Dredge ☐Drain			
Temporary: 0 s.f. Temporary: 0 s.f				
Permanent: : 0 s.f. Permanent: : 0 s.f				
Mitigation				
Avoidance and Minimization (s.f. of Class II wetland NOT impacted):  Wetland:	s.f. Buffer Zone s.f.			
Wetland Mitigation: (s.f. Gained)  Buffer Zone Mitigation (s.f. Gained):				
Restoration s.f. Enhancement s.f.	Restoration s.f. Enhancement s.f			
Creation s.f. Conservation s.f.	Creation s.f Conservation s.f			
Reason for Mitigation:   Correction of Violation	☐ Mitigation to offset permit ☐ Voluntary			



impacts

### All Applications Should be Mailed To:

Vermont Wetlands Program Watershed Management Division 1 National Life Drive, Main 2 Montpelier, VT 05620-3522

Staff To Complete			
Wetland Project Number:			
Wetland Project Name:		DEC ID#:	
Date Application Received:			
Request for Information Date:		Information Received Date:	
Request for Information Date:		Information Received Date:	
<b>Date Application Complete:</b>		Distribution Complete Date:	
Notice Begin Date:		Notice End Date:	
Final Action Date:		Public Meeting Date:	
Check#	Check Amount	t	Date Check Received
Check#	Check Amount	t	Date Check Received