



Addison Natural Gas Project

Hinesburg Selectboard Meeting

November 12, 2012

Outline

- The Addison Natural Gas Project – Overview
- Route Design
- Construction Techniques
- Hinesburg
- Next Steps
- Feedback

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Addison Natural Gas Project: Evolution

- Initial plan was to extend service to Middlebury and Vergennes
- Working with communities to identify best route
- Approached by Ticonderoga Paper Mill to provide service to the mill
 - ◆ Reached a long term agreement where the paper mill will pay for development of a pipeline to the NY facility
 - ◆ No cost to Vermont ratepayers
 - ◆ Extends transmission pipeline 17 miles closer to Rutland at no cost to Vermont ratepayers

Addison Natural Gas Project: Benefits

■ Economic benefits –

- ◆ Reduces overall energy cost by \$44 million over 20 years
- ◆ Will help to create and retain jobs

■ Environmental benefits –

- ◆ Reduces 6.3 million gallons of oil use per year in Vermont
- ◆ Eliminates over 16,000 tons of greenhouse gas emissions per year

■ Supports key stakeholders and employers who are calling for natural gas expansion

■ Can provide long term reliability benefits

- ◆ Rutland Service
- ◆ Potential interconnection to US natural gas system



Ticonderoga Paper Mill Service: Benefits

- Lowers the mill's fuel costs by up to 40%
- Helps reduce regional greenhouse gas emissions
- Supports regional business with 650 employees and 600 other jobs
- Extends Vermont's transmission pipeline 17 miles closer to Rutland
- No cost to Vermont ratepayers



Addison Natural Gas Project: Phases

Phase 1

- Transmission pipeline from Colchester in “Circ” corridor to Williston; south generally along VELCO and roadway corridors to Addison
- Permits to be filed for in December 2012
- Transmission Service to Cabot of Middlebury in 2014
- Distribution to Middlebury & Vergennes in 2015

Phase 2

- Transmission south of Middlebury
- Lateral pipeline west to Ticonderoga Paper Mill
- Service to paper Mill in 2015
- Route not yet determined
- Permits to be filed for in summer of 2013

Phase 1: Description

- Transmission Mainline Pipeline: About 42 miles of 12-inch transmission mainline in Chittenden and Addison counties
 - 3 Gate Stations
 - Distribution Mainline: Approx. 3.8 miles of distribution pipeline
 - Local Distribution Pipeline Networks: Small diameter distribution pipeline networks
-
- Ticonderoga Paper Mill – 10” transmission mainline; route to be determined



Phase 1: Project Schedule

Addison County Expansion Project																					
	2010	2011				2012				2013				2014				2015			
	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Conceptual Design																					
Project Funding Initiative																					
Preliminary Design																					
Stakeholder Engagement																					
248 Preparation																					
• Engineering																					
• Environmental																					
• Outreach																					
248 Looping																					
248 Proceeding																					
Order Materials																					
Construction																					
Customer Turn-ons																					



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Route Design

- **Goal** - to develop a permitable pipeline system that will minimize environmental impacts, protect culturally sensitive sites and use most appropriate construction techniques for the area.
- **How** - Using a multi-disciplinary approach, combine inputs from environmental experts, archaeological experts, survey teams and design engineers.

Route Design – Considerations

- **Environmental** – Use data from pre-existing surveys and ongoing field studies to identify:
 - ◆ Wetlands, rivers, streams & aquifers
 - ◆ Rare, endangered or threatened species
 - ◆ Forested areas
 - ◆ Other areas required by law
- **Archaeological** – Combine predictive modeling, previously obtained data and ongoing field studies to minimize impact & avoid sensitive areas.

Route Design – Considerations

- **Survey** – Determine land characteristics and identify areas most suitable for construction including:
 - ◆ Rock and ledge
 - ◆ Hills and slopes
- **Design** – Engineers will blend inputs and design an underground system that is safe, reliable and minimizes impacts to the area

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Construction

- Specific areas and construction methods to be used at each location are determined during the design & permitting phase
- All designs must be approved before construction can begin and work must be in accordance with the issued permits



Vermont Gas' Experience

- Vermont Gas has worked on projects in environmentally sensitive areas;
- Most recently, “looping” projects (Phase 1-5) have occurred in areas that were protected or restored;
- Contractors have experience with Directional Drilling under rivers and streams
- Vermont Gas has complied with all permitting requirements
- “Post construction” meets or exceeds requirements

Construction in Wetlands

Final restoration includes seeding or planting of indigenous plant species appropriate to the specific wetland area



Protection of threatened species



Pink flags marked locations a rare species of plant in a wetland on the corridor; snow fence was used to prevent intrusion during construction.

Pipeline corridor through shallow marsh (Georgia)



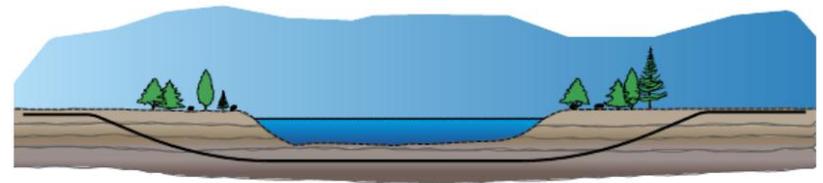
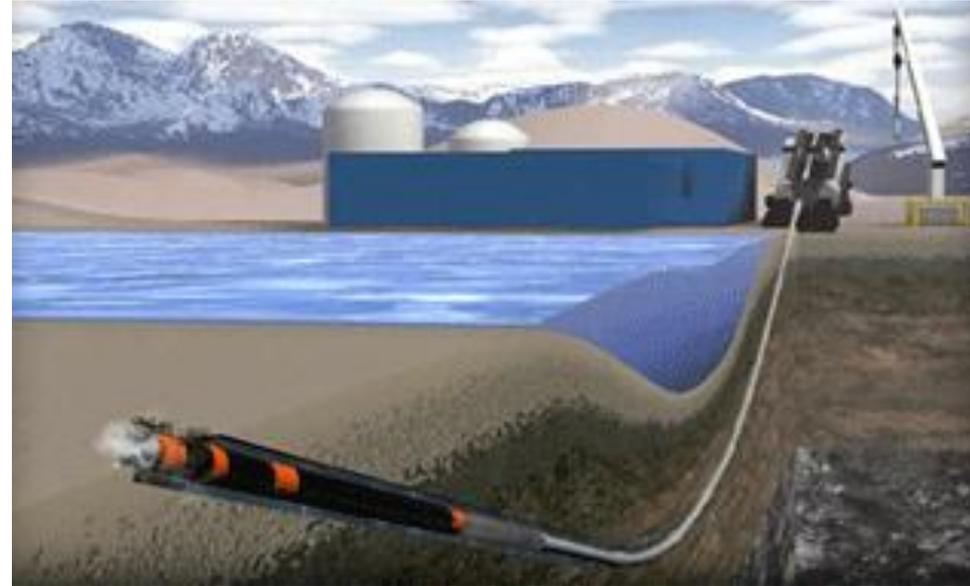
This section of pipeline crosses about 1400 feet of wetland.

Existing pipeline through forested wetland



Horizontal Directional Drilling

- Construction technique with minimal environmental impact
- Can drill through ground under bodies of water without disturbing flows or bottom
- Experience with crossing under Lamoille, Missisquoi and Winooski Rivers



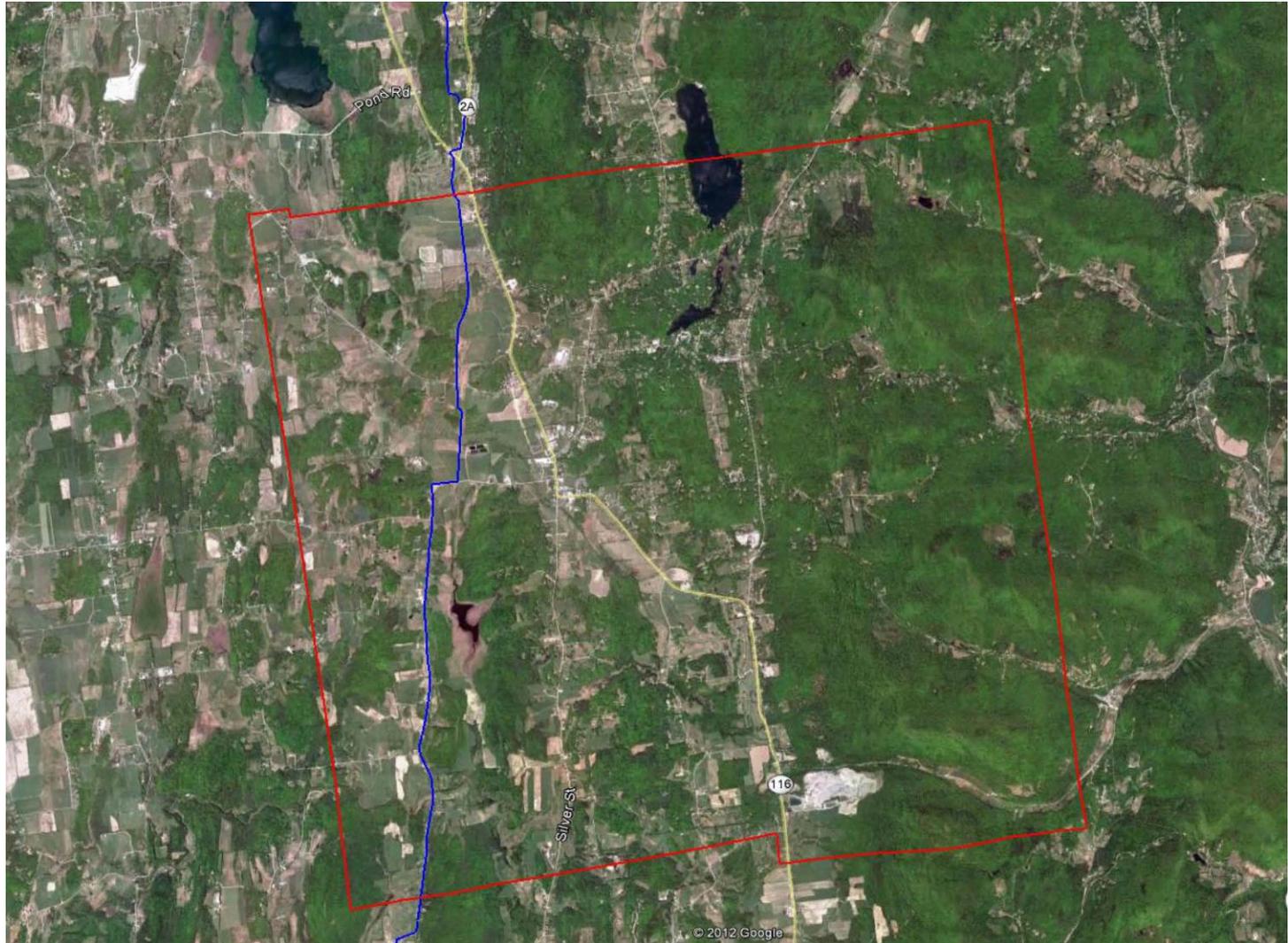
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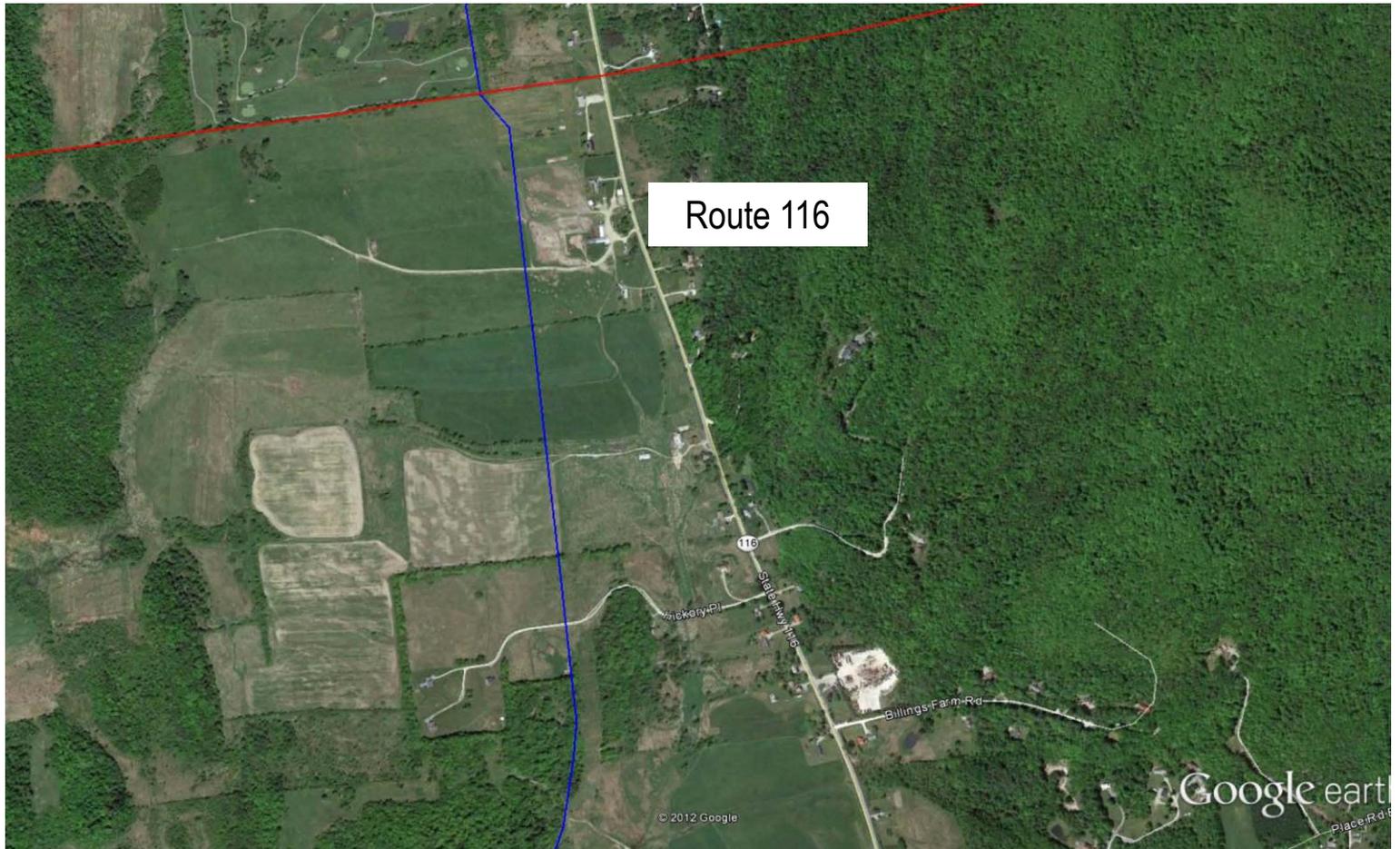
Hinesburg

- 6.5-miles miles of Transmission Pipeline
- Combination of public and private rights of way
 - ◆ 3.9-miles public ROW
 - ◆ 2.6-miles private ROW

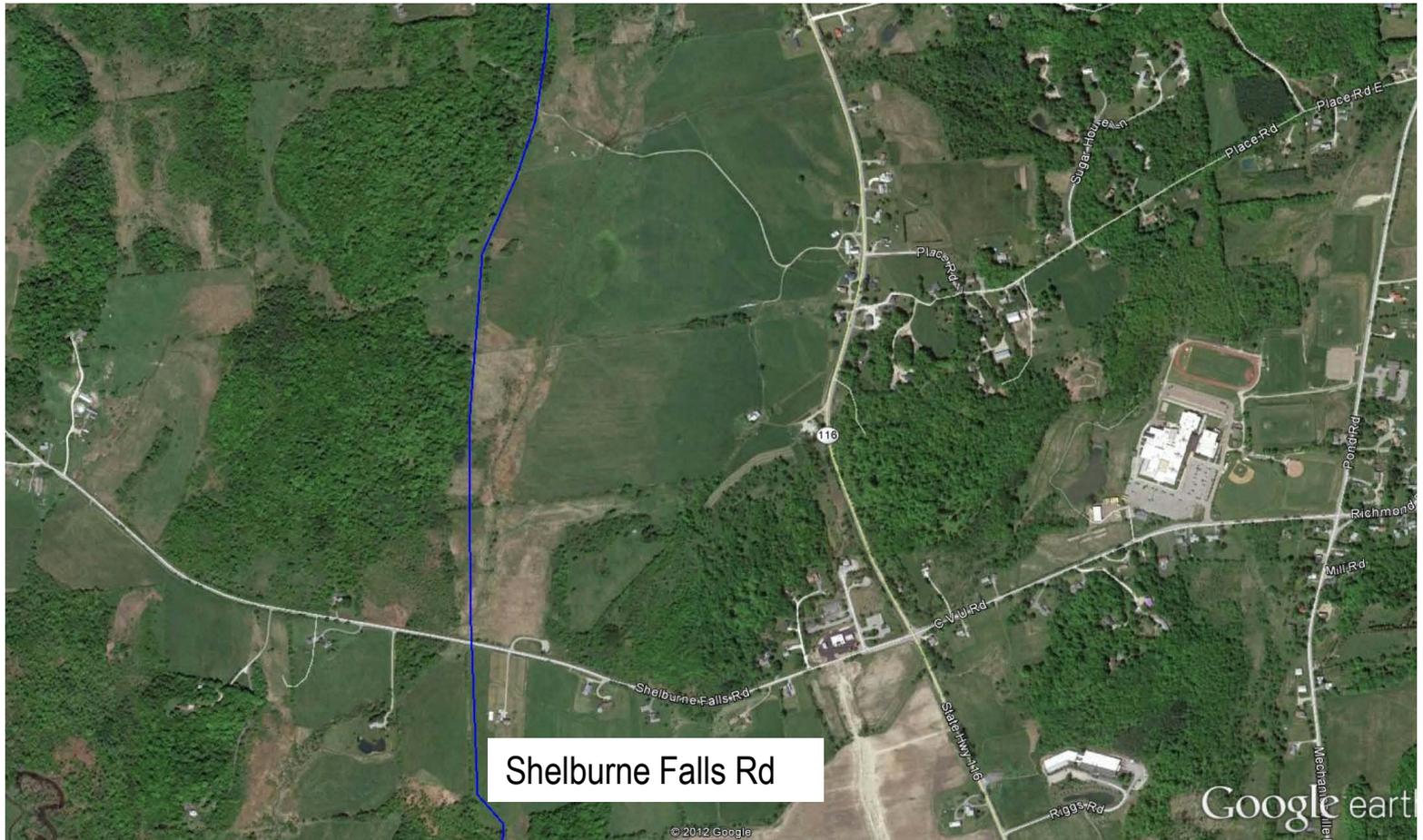
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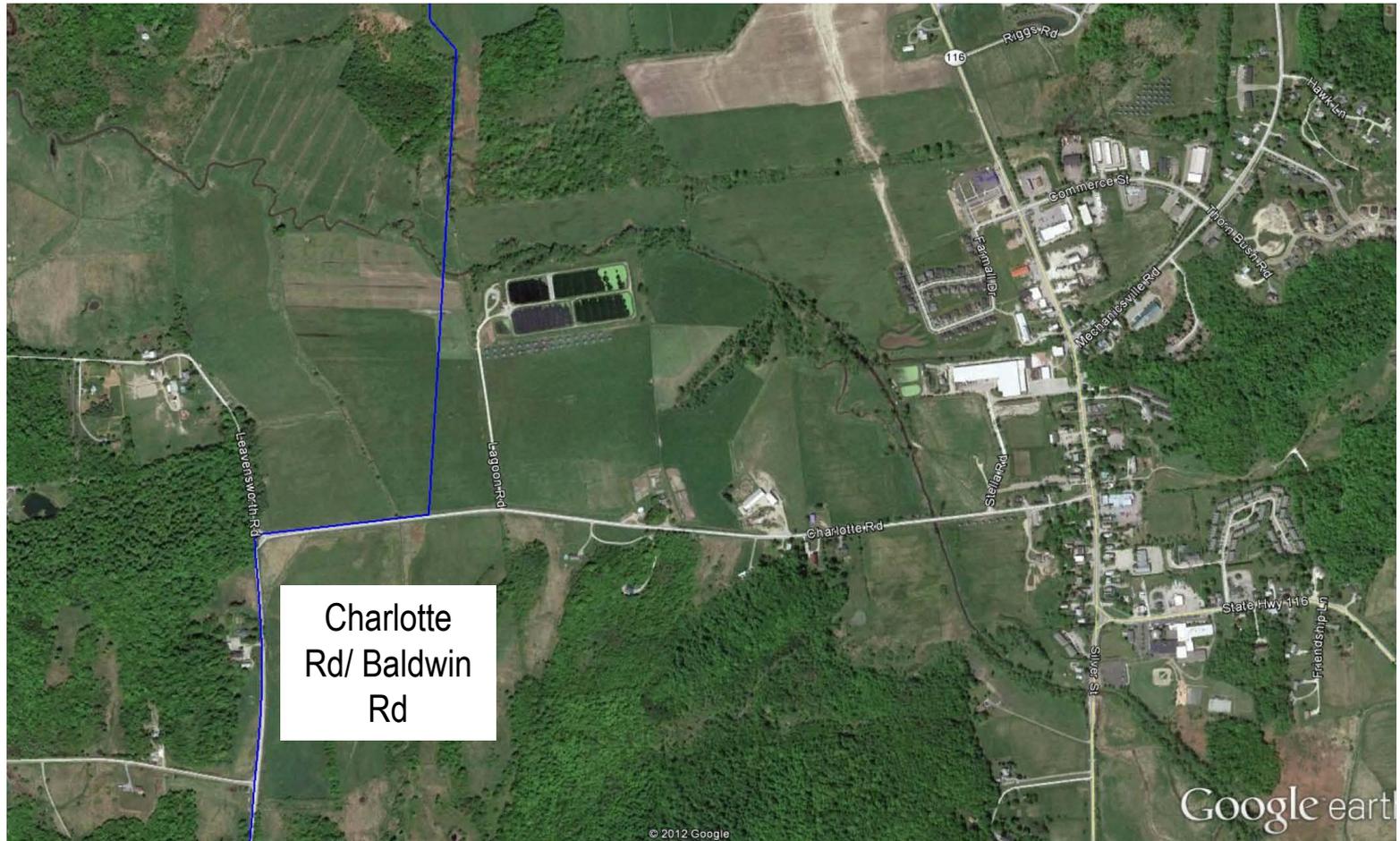
Hinesburg Route



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Hinesburg Route



Hinesburg Route



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Next Steps: Phase 1

- Continued Community Outreach
- Property permission negotiations with Landowners
- Complete System Design Work
- File for necessary permits:
 - ◆ US Army Corp of Engineers
 - ◆ State 248 and Collateral Permits (December 2012)
 - ◆ Local authorizations (As needed)

Next Steps: Phase 2

- Work with planners from Middlebury, Shoreham, Cornwall, and Middlebury College to identify best route
- Community meetings
- Property permission negotiations with Landowners
- Complete Field Work (Environmental, Survey, Archaeology)
- Complete System Design Work
- File for necessary permits (July 2013)

Feedback or Questions?

- Contact Steve Wark from Vermont Gas at:

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E-mail: swark@vermontgas.com

- Contact the Department of Public Service at www.publicservice.vermont.gov