

# LEGGETTE, BRASHEARS & GRAHAM, INC.

## PROFESSIONAL GROUNDWATER AND ENVIRONMENTAL ENGINEERING SERVICES

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January 29, 2014

Mr. Peter Marlow, P.E.  
Senior Public Health Engineer  
Dutchess County Department of Health  
85 Civic Center Plaza, Suite 106  
Poughkeepsie, NY 12601

RE: Application for Well Site Approval  
Proposed Silo Ridge Development  
4651 Route 22  
Amenia, New York

Dear Mr. Marlow:

Leggette, Brashears & Graham, Inc. (LBG) and VHB Engineering, Surveying and Landscape Architecture, P.C. (VHB) on behalf of Silo Ridge Ventures, LLC have prepared this request for approval to drill and construct up to 10 bedrock test wells on the Silo Ridge property in the Town of Amenia, New York. If sufficient yields are obtained, the wells will be used to supply water to the proposed new development on the Silo Ridge property. The locations of the proposed bedrock test wells are shown on the attached drawing "Silo Ridge Resort Community, Proposed Well Locations", January 28, 2014.

Modifications to the existing Silo Ridge Golf Course are also being conducted and are shown on the attached drawing. The changes in the golf course layout have been considered in the selection of the proposed well site locations in regard to public water-supply well offset distance requirements from sources of potential pollution. Irrigation water for the golf course will be supplied by the onsite ponds which will collect surface-water runoff from the golf course and proposed development areas on the property. No irrigation wells for the golf course are currently proposed.

### **Well Site Approval**

The proposed test well locations were chosen by LBG based on the results of a fracture-trace analysis conducted and an assessment of the locations and yields of existing onsite wells (figure 1). Based on the layout of the proposed development, none of the existing onsite wells meet the New York State Department of Health (NYSDOH) 100-foot radius of ownership/200-foot radius of sanitary control well siting requirements or the wells do not have sufficient yield for consideration for use as public water-supply wells for this project.

Each proposed test well location was selected to target water-bearing fractures in the bedrock identified in the fracture-trace analysis and meet regulatory well offset distance requirements from sources of pollution. The actual number of wells that will be constructed on the property is dependent on the yields obtained from the proposed wells as they are drilled. The total target yield of water to be developed is approximately 177 gpm (gallons per minute) with the most productive well (i.e., best well) out of service to meet twice the estimated average water demand for the proposed project. It may not be necessary to construct a well in each of the proposed locations if the desired amount of water can be obtained from the first several well locations drilled.

The table below is a summary of the water demand estimated for the proposed Silo Ridge development based on New York State Department of Environmental Conservation, Draft 2012 “Design Standards for Wastewater Treatment Works”:

| Usage Type                      | Subcategory         | Number         | Water Usage Rate | Water Demand (gpd) | Water Demand with 20% Reduction (gpd) | Twice the Average Water Demand (gpd) |
|---------------------------------|---------------------|----------------|------------------|--------------------|---------------------------------------|--------------------------------------|
| Residential                     | Total Bedroom Count | 996 bedrooms   | 110 gpd/bedroom  | 109,560            | 109,560*                              | 219,120                              |
| Lodge Clubhouse                 | Restaurant          | 167 seats      | 35/seat          | 5,845              | 4,676                                 | 9,352                                |
|                                 | Store/Pro Shop      | 4 employees    | 15/employee      | 60                 | 48                                    | 96                                   |
| Clubhouse/Fitness               | Pool                | 50 swimmers    | 10/swimmer       | 500                | 400                                   | 800                                  |
|                                 | Health Club         | 20 patrons     | 20/patron        | 400                | 320                                   | 640                                  |
| Sales House - General           | Store               | 5,000 sq.ft.   | 0.1/sq. ft.      | 500                | 400                                   | 800                                  |
| Activity Barn                   | Pool                | 50 swimmers    | 10/swimmer       | 500                | 400                                   | 800                                  |
|                                 | Bowling             | 2 lanes        | 10/lane          | 20                 | 16                                    | 32                                   |
|                                 | Theater             | 32 seats       | 75/seat          | 2,400              | 1,920                                 | 3,840                                |
| Winery Building                 | Restaurant          | 80 seats       | 35/seat          | 2,800              | 2,240                                 | 4,480                                |
|                                 | Winery              | allowance      | 2,000            | 2,000              | 1,600                                 | 3,200                                |
| Golf Academy                    |                     | 40 students    | 10/student       | 400                | 320                                   | 640                                  |
|                                 |                     | 5 teachers     | 10/teacher       | 50                 | 40                                    | 80                                   |
| Vineyard Villas Club            |                     | 13 seats       | 35/seat          | 455                | 364                                   | 728                                  |
| Equestrian Center               | Wash Stalls         | 2 stalls       | 35/stall         | 70                 | 56                                    | 112                                  |
|                                 | Boarded Horses      | 20 horses      | 12/horse         | 240                | 192                                   | 384                                  |
|                                 | Employees           | 5 employees    | 15/employee      | 75                 | 60                                    | 120                                  |
| Field House                     | Pool                | 50 swimmers    | 10/swimmer       | 500                | 400                                   | 800                                  |
| Golf Maintenance Building       | Building Size       | 11,500 sq. ft. | 0.1/ sq. ft.     | 1,150              | 920                                   | 1,840                                |
| Employees                       |                     | 200 employees  | 15/employee      | 3,000              | 2,400                                 | 4,800                                |
| Comfort Stations                | Snack Seating       | 16 seats       | 25/seat          | 400                | 320                                   | 640                                  |
| Golf Course                     | Rounds of Golf      | 60 rounds      | 20/round         | 1,200              | 960                                   | 1,920                                |
| <b>Total Water Demand (gpd)</b> |                     |                |                  |                    | 127,612                               | 255,224                              |
| <b>Total Water Demand (gpm)</b> |                     |                |                  |                    | 88.6                                  | 177.2                                |

sq. ft. square feet

gpd gallons per day

gpm gallons per minute

\* 20% reduction not applied to residential water demand component per NYSDEC Draft 2012 “Design Standards for Wastewater Treatment Works”

There are no known sources of potential pollution listed in the NYSDOH Sanitary Code Part 5 Subpart 5-1 Appendix 5-D within 200 feet of the proposed test well locations based on the proposed layout of the project site shown on the attached drawing. The 100-foot radius of ownership for all proposed well locations is contained within the property boundaries of the Silo Ridge Golf Course. The 200-foot radius of sanitary control is also contained within the property boundaries of the Silo Ridge Golf Course for all the proposed well locations with the exception of Well 19 which is discussed below.

Two former landfill areas are shown on the attached drawing. The former landfill area located south of the golf course, known as the Luther Segalle Landfill, is no longer in use and has been capped. Annual monitoring of the former landfill area is conducted and results of the monitoring are report to the NYSDEC. This former landfill area is owned by Harlem Valley Property, LLC which is an entity controlled by the applicant. The former landfill area to the east of the golf course shown on the attached drawing is owned by the Town of Amenia. This landfill area was recently capped and is no longer in use. The proposed onsite test well locations for Silo Ridge are located 900 feet or more from these former landfill areas and none of the test well locations are located in a downgradient direction from the former landfills.

The design and layout of the sewer lines for the proposed development are still in the conceptual phase and have not been included on the attached drawing. However, the sanitary sewer lines will be designed to afford the required minimum of 50-foot separation distance from public water-supply wells. Additionally, the discharge location for the onsite Wastewater Treatment Facility has not been finalized. However, the location selected will be placed a minimum of 200 feet from any onsite well proposed for use as a public water-supply well. Below is a description of each proposed well location shown on the attached drawing.

Well 17 – Located to the west of the large central pond. The 200-foot sanitary control radius for Well 17 is located completely within the Silo Ridge Golf Course property boundary and encompasses the central pond and proposed wet and dry swales which will not receive direct runoff from any onsite paved or parking areas (automotive-related waste) in the development. The well site was selected to target the bedrock contact between the marble and schist bedrock units underlying the property and a perceived fracture-trace lineation that passes through this region of the site.

Well 18 – Located south of the large central pond. The 200-foot sanitary control radius for Well 18 is located completely within the Silo Ridge Golf Course property boundary and encompasses the central pond and proposed dry swales which will not receive direct runoff from any onsite paved or parking areas (automotive-related waste) in the development. The well site was selected to target the bedrock contact between the marble and schist bedrock units underlying the property and a perceived fracture-trace lineation that passes through this region of the site.

Well 19 – Located east of the large central pond. The 200-foot sanitary control radius for Well 19 encompasses a portion of two proposed residential lots as shown on the attached drawing. If Well 19 is pursued as a public water-supply source, an easement will be obtained for those properties that impact the 200-foot radius of this well location. A stream channel and proposed dry swales which will not receive direct runoff from any onsite paved or parking areas (automotive-related waste) in the development are also located within the 200-foot radius of this

well. The well site was selected to target a fracture-trace lineation that passes through this region of the site.

Well 20 – Located to the southeast of the central pond. The 200-foot sanitary control radius for Well 20 is located completely within the Silo Ridge Golf Course property boundary and encompasses the central pond and proposed dry swales which will not receive direct runoff from any onsite paved or parking areas (automotive-related waste) in the development. The well site was selected to target a fracture-trace lineation that passes through this region of the site.

Well 21 – Located on the north side of the golf course. The 200-foot sanitary control radius for Well 21 is located completely within the Silo Ridge Golf Course property boundary and encompasses a portion of a stream channel. The well site was selected to target fracture-trace lineations that passes through this region of the site.

Well 22 – Located on the northwest side of the golf course. The 200-foot sanitary control radius for Well 22 is located completely within the Silo Ridge Golf Course property boundary and encompasses a portion of a stream channel. The well site was selected to target a fracture-trace lineation that passes through this region of the site.

Well 23 – Located on the southeast side of the golf course. The 200-foot sanitary control radius for Well 23 is located completely within the Silo Ridge Golf Course property boundary and encompasses a portion of NYSDEC wetland AM-15. The well site was selected to target a fracture-trace lineation that passes through this region of the site.

Well 24 – Located on the central area of the golf course. The 200-foot sanitary control radius for Well 24 is located completely within the Silo Ridge Golf Course property boundary. No surface-water features are proposed within the 200-foot radius of the well. The well site was selected to target a fracture-trace lineation that passes through this region of the site.

Well 25 – Located to the west of the onsite NSYDEC wetland. The 200-foot sanitary control radius for Well 25 is located completely within the Silo Ridge Golf Course property boundary and encompasses a portion of NYSDEC wetland AM-15 and proposed dry swales which will not receive direct runoff from any onsite paved or parking areas (automotive-related waste) in the development. The well site was selected to target a fracture-trace lineation that passes through this region of the site.

Well 26 – Located on the northwest side of the golf course. The 200-foot sanitary control radius for Well 26 is located completely within the Silo Ridge Golf Course property boundary. No surface-water features are proposed within the 200-foot radius of the well. The well site was selected to target a fracture-trace lineation that pass through this region of the site.

New York State Department of Environmental Conservation (NYSDEC) and Army Corp of Engineer (ACOE) regulated wetlands are located on the project site. None of the well locations selected are located within an NYSDEC wetland, NYSDEC 100-foot adjacent area wetland buffer or within an ACOE wetland. Therefore, no wetland permits will need to be obtained from these agencies prior to drilling the proposed well locations.



The test wells will be drilled in accordance the NYSDOH, Dutchess County Health Department (DCDOH) regulations and the American Water Works Association (AWWA) Standards for public water-supply wells. A minimum of 50 feet of casing will be installed in each well drilled. The total depth of the wells will be determined based on the conditions encountered during drilling, particularly the depth and yield of the water-bearing fractures encountered in the bedrock. A water-tight cap will be placed on each well following the completion of drilling.

Any wells that are drilled and determined to have insufficient yield, will either be maintained as water-level monitor wells equipped with water-tight caps or be abandoned in accordance with NYSDOH and DCDOH protocols in the future.

Once a sufficient number of test wells have been drilled to meet the twice the average water demand of project with the best well out of service, LBG will coordinate a 72-hour pumping test program to document the stabilized yield of the wells. Because the project's water demand exceeds 100,000 gpd (gallons per day), a water-supply permit from the NYSDEC will be required for the project, in addition to obtaining approvals from the DCDOH and NYSDOH. Therefore, the pumping test program will be designed in accordance with the NYSDEC "Pumping Test Procedures for Water Withdrawal Applications", March 2013. The pumping test plan will be discussed with the DCDOH prior to completion of testing.

As part of the pumping test program, water samples will be collected from the test wells and analyzed for parameters listed in the NYSDOH Sanitary Code Part 5, Subpart 5-1 for public water-supply wells. In addition, if a test well is located within 200 feet of a surface-water body, the well will also be sampled for microscopic particulate analysis.

Enclosed herewith please find the following documents for your review:

1. Figure 1, Leggette, Brashears & Graham, Inc. "Bedrock Geology with Fracture-Trace Analysis and Existing Well Locations", January 24, 2014
2. Drawing, VHB Engineering Surveying and Landscape Architecture, P.C., "Silo Ridge Resort Community, Proposed Well Locations", January 28, 2014
3. Short Environmental Assessment Form for Test Well Drilling Program, January 28, 2014
4. VHB Engineering Surveying and Landscape Architecture, P.C. "Engineer's Report, Silo Ridge Resort Community, 4651 Route 22, Amenia, New York 12501", January 2014

If you have any question concerning this application or require additional information please contact LBG at (203) 929-8555.

Very truly yours,

LEGGETTE, BRASHEARS & GRAHAM, INC.



Stacy Stieber  
Senior Hydrogeologist

Reviewed by:



Thomas P. Cusack, CPG  
Senior Vice President

TPC:cmm

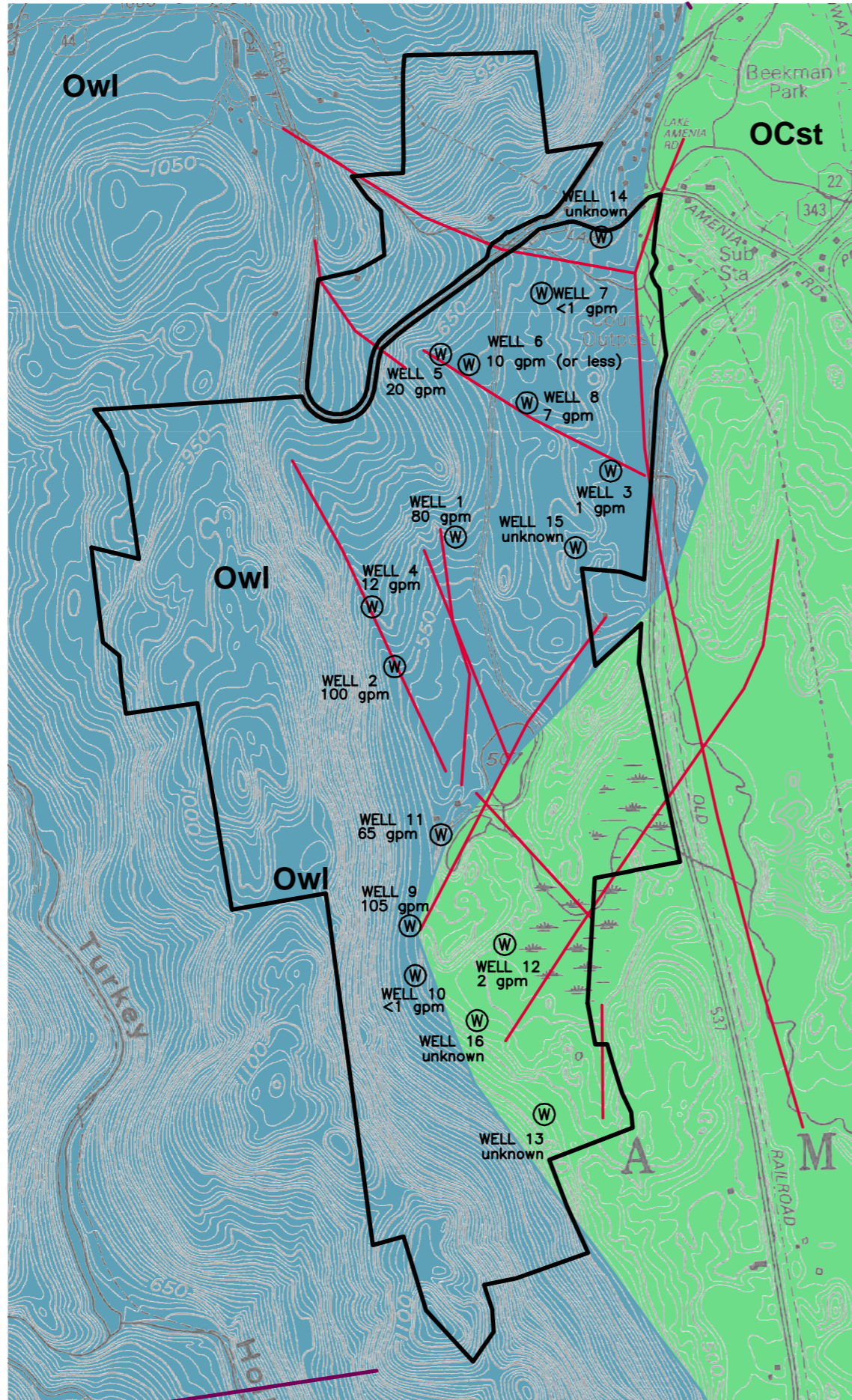
Enclosures

cc: Michael Montysko – NYSDOH  
Michael Dignacco – Stoneleaf Partners LLC  
Michael Pelczar – Stoneleaf Partners LLC  
Amanda DeCesare – VHB Engineering, Surveying and Landscape Architecture, P.C.

H:\Silo Ridge Property\Well Site Approval Application\Cover Letter Well Site Approval.docx

## **ATTACHMENTS**

O:\DWG\Silo Ridge\Figure1.dwg\_Layout1\_1/24/2014 1:22:52 PM\_AcroPlot.pc3



**LEGEND**

- PROPERTY BOUNDARY
- EXISTING WELL LOCATION  
WELL YIELD (IF KNOWN)
- FAULT
- FRACTURE TRACE
- Owl** WALLOOMSAC FORMATION
- OCst** STOCKBRIDGE MARBLE

**SILO RIDGE PROPERTY  
AMENIA, NEW YORK**

BEDROCK GEOLOGY WITH FRACTURE-TRACE ANALYSIS  
AND EXISTING WELL LOCATIONS

| DATE          | REVISED | PREPARED BY: <b>LEGGETTE, BRASHEARS &amp; GRAHAM, INC.</b><br>Professional Groundwater and Environmental Engineering Services |
|---------------|---------|---|
|               |         | <br>4 Research Drive<br>Suite 301<br>Shelton, Connecticut 06484<br>(203) 929-8555   |
|               |         |   |
|               |         |   |
|               |         |   |
| <b>DRAWN:</b> | RAC     | <b>CHECKED:</b> SS <b>DATE:</b> 01/24/14 <b>FIGURE:</b> 1   |



**617.20**  
**Appendix B**  
**Short Environmental Assessment Form**

**Instructions for Completing**

**Part 1 - Project Information.** The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

|  |  |                                     |                          |
|--|--|-------------------------------------|--------------------------|
| <b>Part 1 - Project and Sponsor Information</b>  |  |                                     |                          |
| Name of Action or Project:<br>Silo Ridge Resort Community  |  |                                     |                          |
| Project Location (describe, and attach a location map):<br>The project is located on the west side of Route 22 in Amenia, New York, south of the intersection of Routes 22 & 44. See Figure 1, attached.   |  |                                     |                          |
| Brief Description of Proposed Action:<br>Proposed action includes the drilling of bedrock test well locations on the project site to develop sufficient water to meet the potable water demand requirements of the Silo Ridge project.   |  |                                     |                          |
| Name of Applicant or Sponsor:<br>Silo Ridge Ventures, LLC  |  | Telephone: (845) 373-8020           | E-Mail:                  |
| Address:<br>5021 Route 44  |  |                                     |                          |
| City/PO:<br>Amenia   |  | State:<br>NY                        | Zip Code:<br>12501       |
| 1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation?<br>If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2. |  | <b>NO</b>                           | <b>YES</b>               |
|  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Does the proposed action require a permit, approval or funding from any other governmental Agency?<br>If Yes, list agency(s) name and permit or approval:<br>No additional permits or approvals are required to drill onsite bedrock test wells.  |  | <b>NO</b>                           | <b>YES</b>               |
|  |  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3.a. Total acreage of the site of the proposed action?   |  | _____ 670 acres                     |                          |
| b. Total acreage to be physically disturbed?   |  | _____ < 1 acres                     |                          |
| c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?   |  | _____ 670 acres                     |                          |
| 4. Check all land uses that occur on, adjoining and near the proposed action.  |  |                                     |                          |
| <input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural (non-agriculture) <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential (suburban)   |  |                                     |                          |
| <input checked="" type="checkbox"/> Forest <input checked="" type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Aquatic <input checked="" type="checkbox"/> Other (specify): <u>Golf course</u>   |  |                                     |                          |
| <input type="checkbox"/> Parkland  |  |                                     |                          |

|  |   |                                     |                                     |
|--|---|-------------------------------------|-------------------------------------|
| 5. Is the proposed action,<br>a. A permitted use under the zoning regulations?   | <b>NO</b>   | <b>YES</b>                          | <b>N/A</b>                          |
|  | <input type="checkbox"/>  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| b. Consistent with the adopted comprehensive plan?   | <input type="checkbox"/>  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
|  |   |                                     |                                     |
| 6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?  | <b>NO</b>   | <b>YES</b>                          |                                     |
|  | <input type="checkbox"/>  | <input checked="" type="checkbox"/> |                                     |
| 7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area?<br>If Yes, identify: _____<br>_____   | <b>NO</b>   | <b>YES</b>                          |                                     |
|  | <input checked="" type="checkbox"/>   | <input type="checkbox"/>            |                                     |
| 8. a. Will the proposed action result in a substantial increase in traffic above present levels?   | <b>NO</b>   | <b>YES</b>                          |                                     |
|  | <input checked="" type="checkbox"/>   | <input type="checkbox"/>            |                                     |
|  | b. Are public transportation service(s) available at or near the site of the proposed action? |                                     |                                     |
|  | <input type="checkbox"/>  | <input checked="" type="checkbox"/> |                                     |
| c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?   |   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 9. Does the proposed action meet or exceed the state energy code requirements?<br>If the proposed action will exceed requirements, describe design features and technologies:<br>_____<br>_____  | <b>NO</b>   | <b>YES</b>                          | N/A                                 |
|  | <input type="checkbox"/>  | <input type="checkbox"/>            |                                     |
|  |   |                                     |                                     |
| 10. Will the proposed action connect to an existing public/private water supply?<br><br>If No, describe method for providing potable water: _____<br>Develop onsite public water supply.   | <b>NO</b>   | <b>YES</b>                          |                                     |
|  | <input checked="" type="checkbox"/>   | <input type="checkbox"/>            |                                     |
| 11. Will the proposed action connect to existing wastewater utilities?<br><br>If No, describe method for providing wastewater treatment: _____<br>Develop onsite wastewater utility.   | <b>NO</b>   | <b>YES</b>                          |                                     |
|  | <input checked="" type="checkbox"/>   | <input type="checkbox"/>            |                                     |
| 12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?<br><br>b. Is the proposed action located in an archeological sensitive area?  | <b>NO</b>   | <b>YES</b>                          |                                     |
|  | <input type="checkbox"/>  | <input checked="" type="checkbox"/> |                                     |
|  | <input checked="" type="checkbox"/>   | <input type="checkbox"/>            |                                     |
| 13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?<br><br>b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody?<br>If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____<br>_____<br>_____                                  | <b>NO</b>   | <b>YES</b>                          |                                     |
|  | <input type="checkbox"/>  | <input checked="" type="checkbox"/> |                                     |
|  | <input checked="" type="checkbox"/>   | <input type="checkbox"/>            |                                     |
|  |   |                                     |                                     |
| 14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply:<br><input type="checkbox"/> Shoreline <input checked="" type="checkbox"/> Forest <input checked="" type="checkbox"/> Agricultural/grasslands <input type="checkbox"/> Early mid-successional<br><input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Urban <input type="checkbox"/> Suburban                      |   |                                     |                                     |
| 15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?   | <b>NO</b>   | <b>YES</b>                          |                                     |
|  | <input type="checkbox"/>  | <input checked="" type="checkbox"/> |                                     |
| 16. Is the project site located in the 100 year flood plain?   | <b>NO</b>   | <b>YES</b>                          |                                     |
|  | <input type="checkbox"/>  | <input checked="" type="checkbox"/> |                                     |
| 17. Will the proposed action create storm water discharge, either from point or non-point sources?<br>If Yes,<br>a. Will storm water discharges flow to adjacent properties? <input type="checkbox"/> NO <input type="checkbox"/> YES<br><br>b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)?<br>If Yes, briefly describe: <input type="checkbox"/> NO <input type="checkbox"/> YES<br>_____<br>_____ | <b>NO</b>   | <b>YES</b>                          |                                     |
|  | <input checked="" type="checkbox"/>   | <input type="checkbox"/>            |                                     |
|  |   |                                     |                                     |



|   |                                     |                                     |
|---|-------------------------------------|-------------------------------------|
| 18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)?<br>If Yes, explain purpose and size: _____<br>A small pit (approximately 5 ft x 5 ft) will be dug next to each test well location drilled to collect cuttings during drilling and prevent erosion. Pits will be backfilled once drilling is completed. | NO                                  | YES                                 |
|   | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility?<br>If Yes, describe: _____   | NO                                  | YES                                 |
|   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste?<br>If Yes, describe: _____   | NO                                  | YES                                 |
|   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| <b>I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE</b>  |                                     |                                     |
| Applicant/sponsor name: <u>Amanda DeCesare, on behalf of Silo Ridge Ventures, LLC</u> Date: <u>1/28/14</u>  |                                     |                                     |
| Signature: <u><i>Amanda DeCesare</i></u>  |                                     |                                     |

**Part 2 - Impact Assessment. The Lead Agency is responsible for the completion of Part 2.** Answer all of the following questions in Part 2 using the information contained in Part 1 and other materials submitted by the project sponsor or otherwise available to the reviewer. When answering the questions the reviewer should be guided by the concept "Have my responses been reasonable considering the scale and context of the proposed action?"

|  | No, or small impact may occur | Moderate to large impact may occur |
|--|-------------------------------|------------------------------------|
| 1. Will the proposed action create a material conflict with an adopted land use plan or zoning regulations?  | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 2. Will the proposed action result in a change in the use or intensity of use of land?   | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 3. Will the proposed action impair the character or quality of the existing community?   | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 4. Will the proposed action have an impact on the environmental characteristics that caused the establishment of a Critical Environmental Area (CEA)?                      | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 5. Will the proposed action result in an adverse change in the existing level of traffic or affect existing infrastructure for mass transit, biking or walkway?            | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 6. Will the proposed action cause an increase in the use of energy and it fails to incorporate reasonably available energy conservation or renewable energy opportunities? | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 7. Will the proposed action impact existing:   | <input type="checkbox"/>      | <input type="checkbox"/>           |
| a. public / private water supplies?  | <input type="checkbox"/>      | <input type="checkbox"/>           |
| b. public / private wastewater treatment utilities?  | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 8. Will the proposed action impair the character or quality of important historic, archaeological, architectural or aesthetic resources?                                   | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 9. Will the proposed action result in an adverse change to natural resources (e.g., wetlands, waterbodies, groundwater, air quality, flora and fauna)?                     | <input type="checkbox"/>      | <input type="checkbox"/>           |

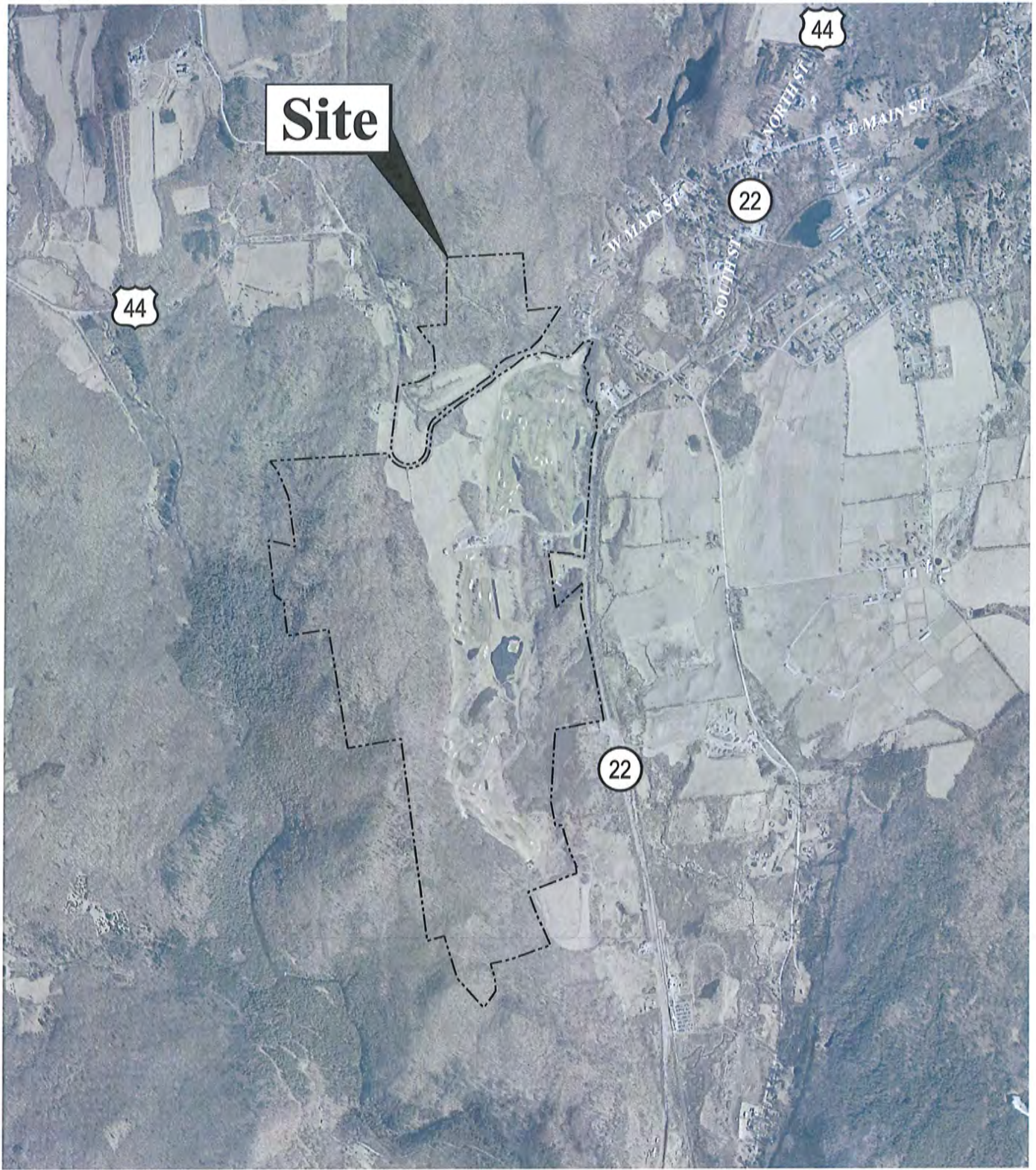
|   | No, or small impact may occur | Moderate to large impact may occur |
|---|-------------------------------|------------------------------------|
| 10. Will the proposed action result in an increase in the potential for erosion, flooding or drainage problems? | <input type="checkbox"/>      | <input type="checkbox"/>           |
| 11. Will the proposed action create a hazard to environmental resources or human health?                        | <input type="checkbox"/>      | <input type="checkbox"/>           |

**Part 3 - Determination of significance. The Lead Agency is responsible for the completion of Part 3.** For every question in Part 2 that was answered “moderate to large impact may occur”, or if there is a need to explain why a particular element of the proposed action may or will not result in a significant adverse environmental impact, please complete Part 3. Part 3 should, in sufficient detail, identify the impact, including any measures or design elements that have been included by the project sponsor to avoid or reduce impacts. Part 3 should also explain how the lead agency determined that the impact may or will not be significant. Each potential impact should be assessed considering its setting, probability of occurring, duration, irreversibility, geographic scope and magnitude. Also consider the potential for short-term, long-term and cumulative impacts.

|  |  |
|--|--|
| <input type="checkbox"/>                                 | Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action may result in one or more potentially large or significant adverse impacts and an environmental impact statement is required. |
| <input type="checkbox"/>                                 | Check this box if you have determined, based on the information and analysis above, and any supporting documentation, that the proposed action will not result in any significant adverse environmental impacts.   |
| _____  | _____  |
| Name of Lead Agency                                      | Date   |
| _____  | _____  |
| Print or Type Name of Responsible Officer in Lead Agency | Title of Responsible Officer   |
| _____  | _____  |
| Signature of Responsible Officer in Lead Agency          | Signature of Preparer (if different from Responsible Officer)  |

**PRINT**





Vanasse Hangen Brustlin, Inc.



0 2000 Feet

Site Location Map  
Silo Ridge Resort Community  
4651 Route 22  
Amenia, New York 12501

Figure 1  
January 28, 2014

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**Engineer's Report**

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***Silo Ridge Resort  
Community***

4651 Route 22  
Amenia, New York 12501

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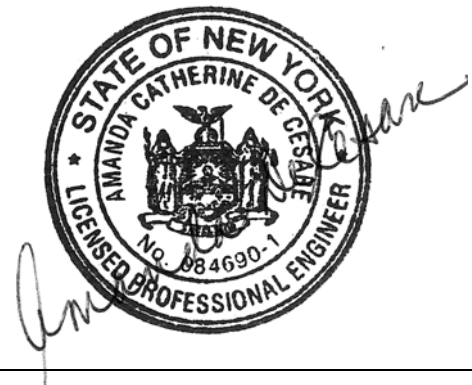
Prepared for: **Silo Ridge Ventures, LLC.**  
**5021 US Route 44**  
**Amenia, New York 12501**  
**Phone: 845.373.8020**

Prepared by:

 ***Engineering, Surveying and Landscape Architecture, P.C.***

**VHB Engineering, Surveying and Landscape Architecture, P.C.**  
**50 Main Street, Suite 360**  
**White Plains, NY 10606**  
**Phone: 914.761.3582**

**January 2014**



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Amanda Catherine De Cesare, P.E.  
New York License #084690

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## **PART I: PROJECT DETAILS**

### **A. *Introduction and Description of Project Vision:***

Silo Ridge Resort Community has been designed to be a unique, family oriented, healthy-living environment focused on year-round recreational, outdoor and sporting activities. The development plan for Silo Ridge puts the natural beauty of the region into the forefront, and provides for significant protection of open space and natural resources. Silo Ridge will have a 21-unit Lodge (comprised of Lodging units); a Clubhouse with spa and dining; a renovated 18-hole championship golf course; and a mix of single-family homes, including Golf Villas; Vineyard Cottages; and other residences grouped around views, natural features, and the Village Green. Silo Ridge is located on approximately 670 acres of stunning countryside in the foothills of the Berkshire Mountains in Amenia, Dutchess County, New York, an area well-known for its pastoral landscape and agricultural heritage.

At the heart of the new resort community, the Village Green will accommodate casual gatherings, active recreation, and club activities. The Village Green will be bounded by the Lodge, Clubhouse, and condominiums. To the west of the Village Green, a garden will serve the Clubhouse and provide direct access to residences to the north.

Silo Ridge has been designed as a series of buildings grouped in neighborhoods around views and open space which tuck into the natural topography. The design approach is in the manner of historic towns, farmsteads and villages in the surrounding Dutchess County countryside, where small pockets of development preserve open space. The landscape plan builds on a vision to create a community that integrates seamlessly with its natural surroundings. The harmony of building, site, and landscape design will contribute to the sense that the community has grown organically over time.

Silo Ridge is located just 85 miles north of New York City, with multiple daily round-trip train service from Grand Central Terminal to Wassaic Station, within one-half mile of the site. The proximity of the Metro-North Railroad station enhances the resort community vision and its ability to attract residents and tourists alike.

Silo Ridge will have the following components:

- 21 Lodging units with direct access to Clubhouse amenities
- Clubhouse with dining and spa
- 18-hole Championship Golf Course
- Winery Restaurant
- 164 Single-Family Homes
  - 29 Golf Villas
  - 19 Vineyard Cottages
  - 22 Village Green Homes
  - 32 South Lawn Homes
  - 57 Estate Homes
- 13 Townhouses
- 52 Attached Condominiums



- Gatehouse, Sales Office, Design Center, and General Store
- Golf Course and Site Maintenance Facilities
- Water and Wastewater Treatment Facilities

**B. Existing Conditions:**

The 670±-acre site (the “Site”) is located west of NYS Route 22 in the Town of Amenia in eastern Dutchess County, New York, approximately 25 miles east of Poughkeepsie, NY and five miles west of Sharon, CT. The Site is approximately ½-mile southwest of the hamlet of Amenia (the “Hamlet”) and two miles north of the hamlet of Wassaic. It is accessible via US Route 44 from the east and west and NYS Route 22 from the north and south. The Wassaic Metro-North train station with service into New York City’s Grand Central Station is located approximately ½-mile south of the Site.

Approximately 170 acres of the Site consists of the former Silo Ridge Country Club, an 18- hole golf course and clubhouse with associated amenities that has been closed since 2009. The Site also includes approximately 47± acres of ponds, streams, and wetlands and 12± acres of roads, buildings, and other paved surfaces. A 2.2-acre parcel north of Route 44 is developed with a residential building. The remaining acreage consists primarily of undeveloped land, part of which is in agricultural use. This includes approximately 230 acres of wooded land on the hillsides and ridge to the west of the golf course.

Land uses within a ½-mile radius of the Site include: agricultural; commercial; community and public services; industrial; residential; recreation and entertainment; wild, forested, conservation lands and public parks; and vacant land. The predominant land use within a ½-mile radius is “wild, forested, conservation lands and public parks.” It should be noted that much of the land within the Site that is identified as “vacant land” is forested, particularly in the western portion of the Site.

As noted above, the 670±-acre Site is largely vacant and undeveloped, except for a 2.2-acre residential parcel and the existing golf course and its associated amenities, which include a clubhouse and banquet facilities. The recreational facilities, including the golf course, encompass approximately 135 acres of the 670±-acre parcel. In addition to the golf course, open space on the Site also includes the approximate 230-acre hillside and ridge in the western portion of the Site.

The Site has varying topography, with slopes ranging from almost 100% to nearly flat. Approximately 58% of the Site has slopes greater than or equal to 15%.

A small area in the northeast portion of the Site along Route 22, south of Route 44, is adjacent to Amenia/Cascade Brook. Approximately 11.6± acres of this area of the site are within the 100-year flood plain. All other areas of the Site appear to be outside of the 100-year flood plain.

According to the Wetland Delineation Report prepared for the project, there are eight streams on the Site, two of which are perennial (flow year-round) and six of which are intermittent (dry some of the time). One of the perennial streams is Amenia/Cascade Brook, which enters the Site south of Route 44, traverses along the eastern property boundary, and exits the Site near the existing golf course entrance on Route 22. The other perennial stream is unnamed. The stream flows southeasterly and drains into Amenia/Cascade Brook off of the Site. The remaining streams are denoted on the wetland delineation map. There are 12 wetlands located throughout the Site, totaling approximately 36 acres. A NYSDEC regulated wetland is located on the southeast region of the Site, the remaining onsite wetlands are regulated by the Army Corp of Engineers.

The Site currently obtains water from a combination of sources. The existing clubhouse was served by a water supply system consisting of an on-site groundwater supply well, water treatment equipment, and finished water storage. The existing golf course irrigation system was a separate and independent system used to irrigate the tees, greens, and fairways. In total, approximately 135± acres were irrigated. Irrigation water was drawn from a natural pond on the Site and distributed via a network of underground piping to irrigation sprinklers. The irrigation pond is fed by a natural spring source, a small on-site stream, and by stormwater runoff from the Site.

The existing sanitary wastewater system for the former clubhouse consists of an on-site septic system with subsurface disposal via leach field. The system operated under New York State Pollution Discharge Elimination System (SPDES) permit number NY0234966, with a permitted flow rate of 0.0126 million gallons per day (MGD) or 12,600 gallons per day (gpd) and a permit expiration date of 2025. This septic system will not be used as part of the proposed Silo Ridge Community Development.

The Site is currently accessible via a main entrance on NYS Route 22. This entrance provides access to the former Silo Ridge Country Club building. The residential parcel north of Route 44 is accessed by a driveway on the westbound side of Route 44. The eastern boundary of the Site is Route 22, which is a major north-south transportation route through eastern Dutchess County. U.S. Route 44 bisects the Site in the northern portion of the property.

## **PART II:       Infrastructure:**

### **A.       Water System:**

The projected average day water demand is approximately 128,000± gallons per day (gpd) or 89 gallons per minute (gpm). The anticipated maximum daily flow is approximately 255,000± gpd (177 gpm).

To meet the water demand of this project, groundwater sources must be capable of providing 177 gpm with the largest producing well out of service, and the proposed water treatment facilities must be capable of treating this volume. The distribution systems of the water treatment facilities will be designed to meet the anticipated maximum daily water demand. Based on yields obtained from existing onsite bedrock wells, the groundwater resources are expected to be sufficient to meet the anticipated maximum daily demand for the project. Due to project changes which impact the existing wells ability to meet New York State Department of Health ownership and sanitary control requirements, the applicant is proposing new well locations and is currently in the process of obtaining permits for well drilling.

The proposed project includes an onsite community water supply system consisting of new groundwater wells, well house water treatment facilities, a water storage tank and a distribution system. The water distribution system will consist of eight-inch water mains with approximately 185 individual service connections. Fire hydrants will be located along roadways. The water storage tank will be located directly south of the Winery Restaurant. To minimize withdrawal impacts generated by both potable and irrigation water use during dry periods, an alternate discharge point is proposed at the top of the stream by hole 18 green which ultimately leads to the large pond to supplement irrigation. For the conceptual layout of the water distribution system, refer to the attached Figure 1: Overall Water Master Plan.

A Water-Works Corporation will be formed in accordance with the New York State Transportation Corporations Law, which will be responsible for the operation and maintenance of the public water supply system servicing Silo Ridge.

## **B. Sanitary Sewer System Design:**

An onsite wastewater collection and treatment system capable of treating the projected demands is proposed. The system will consist of a gravity collection and conveyance system supplemented by pump stations, low pressure sewers, and the wastewater treatment plant ("WWTP"). The site plan for the WWTP is included in the Revised Plans. The WWTP will be constructed during the first phase of the project. The WWTP will be located on the north side of Route 44.

For the conceptual layout of the wastewater collection and treatment system, refer to the attached Figure 2: Overall Wastewater Master Plan.

Gravity sewers have been selected in areas of the Site where practical. Low pressure sewers have been selected in areas where widely varying topography makes gravity sewers impractical. All low pressure sections of the system will ultimately empty into a gravity section or into a pump station. Each served building or house in the low pressure sewer areas of the collection network will be equipped with a grinder pump station that will convey wastewater to a low pressure collection trunk. There will be two pump stations that discharge to the same force main, which itself discharges to that portion of the gravity system flowing directly to the WWTP.

The WWTP will consist of advanced biological treatment, gravity settling of solids, advanced filtration to remove residual solids, and disinfection prior to a surface water discharge. The wastewater will be treated to intermittent stream standards, the highest level of treatment available, without treating to drinking water standards. In accordance with NYSDEC requirements, the WWTP will have multiple outfalls as part of the SPDES application. These outfalls will likely consist of an outfall to the Irrigation Pond with a subsequent outfall for the land application of treated wastewater effluent, as well as an outfall to the Amenia Cascade Brook. Determination for the specific outfall discharge location will be based upon season and irrigation demand and will be further evaluated during the Site Plan and SPDES review process.

Tanks will be placed outdoors, with low-profile engineered covers for odor control, except that any tank within 500 feet of other structures will be placed inside the building housing the tertiary treatment processes. A building next to the tanks would contain the tertiary treatment processes (filtration and UV disinfection) and support facilities (office, chemical room, blower room, solids dewatering room, storage, etc.).

The wastewater treatment technology will meet all effluent quality requirements as required by NYSDEC. When met, these stringent standards will help preserve the water quality of the downstream Class C irrigation ponds, Amenia/Cascade Brook (Class Ct), and downstream water bodies.

The WWTP is anticipated to be steel-frame, with roof and siding materials blending with the surrounding buildings and landscape. The low pressure sewer pump stations will be entirely subsurface, with only an at-grade access hatch for each. The community pump stations will be either entirely below-grade with an access hatch, or will consist of a small above-grade structure containing pumps and controls. Each of the community pump stations also will be equipped with an enclosed emergency generator with appropriate muffling, and will have sufficient landscaping, fencing, or architectural features to allow them to have a negligible visual impact. Pavement will be kept to a minimum, with enough paved area only to provide truck access and maneuvering for deliveries and solids hauling, and a small number of parking spaces for WWTP operators.

Odor issues will be mitigated by proper operation of aerated processes and by enclosing the treatment process inside a building or under covered tanks. The main treatment process tanks will be aerated and mixed to maintain oxygen levels and prevent septic conditions that lead to the generation of most offensive

odors. Odor control technology options, if needed, include activated carbon or a scrubber. All other portions of the WWTP process are expected to yield negligible odors and will be subjected simply to standard ventilation and climate control in the building.

Any future equipment used for odor control would be located within the building. All ventilation will conform to the Ten States Standards, NFPA, and any other applicable standards.

A Sewage-Works Corporation will be formed in accordance with the New York State Transportation Corporations Law, which will be responsible for the operation and maintenance of the public sewer disposal system servicing Silo Ridge.





FIGURE 1:  
OVERALL WATER MASTER PLAN





FIGURE 2:  
OVERALL WASTEWATER MASTER PLAN

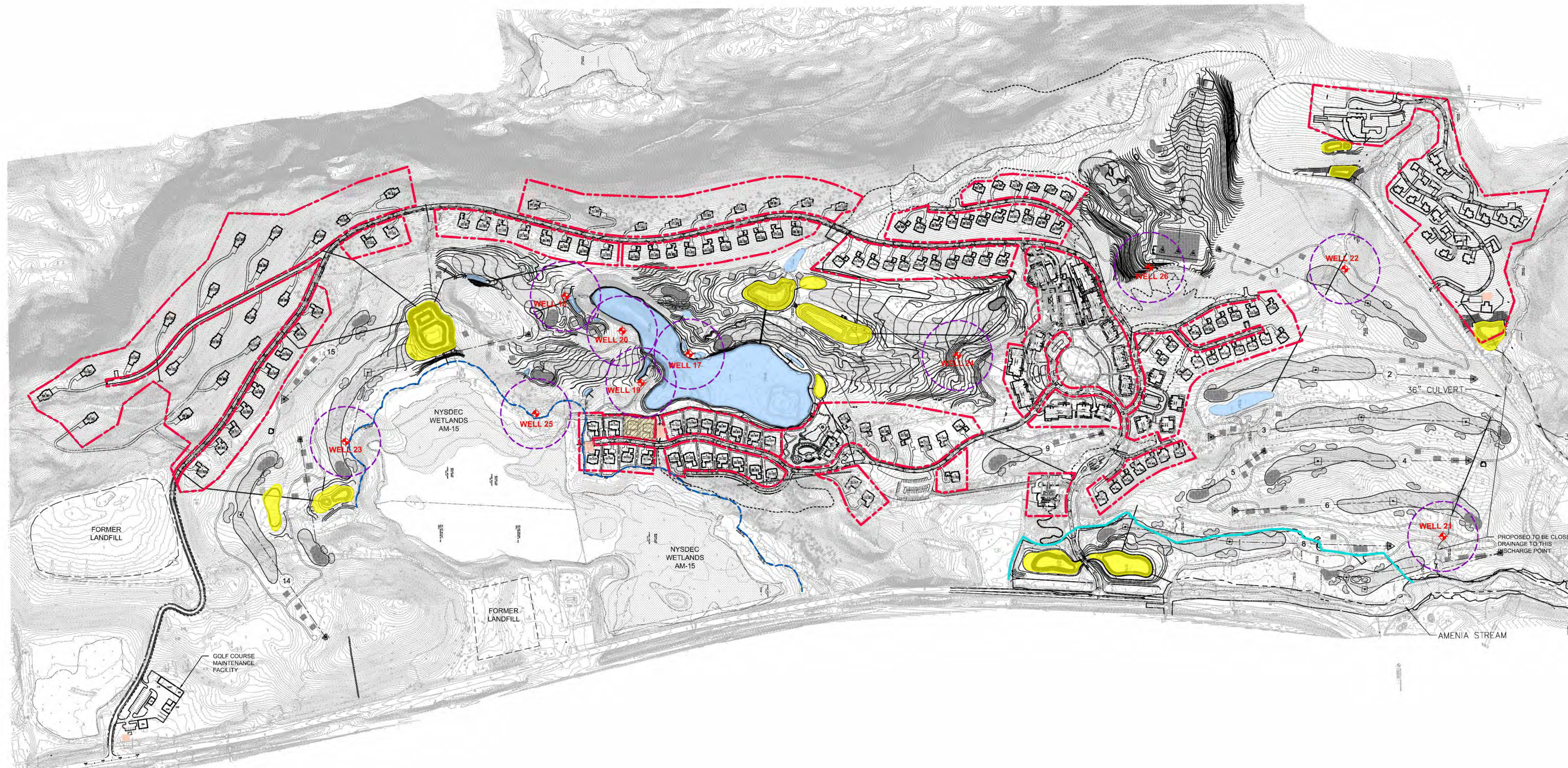




**Engineering, Surveying  
& Landscape Architecture, P.C.**

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Transportation  
Land Development  
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**Silo Ridge  
Resort Community**

4651 Route 22  
Amenia, New York 12501  
Issued for

Not Issued for Construction

**Proposed Well Locations**

Drawing Title

Drawing Number

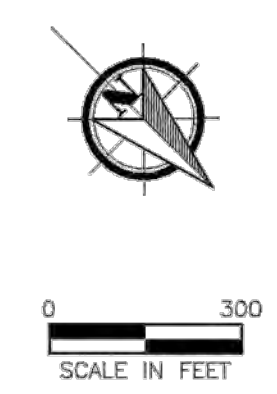
Sheet of 1 1

Project Number 29011.00

- NOTES:**
- ALL PROPOSED WELL LOCATIONS MAINTAIN THE 100-FOOT RADIUS OF OWNERSHIP WITHIN THE GOLF COURSE PROPERTY BOUNDARY.
  - ALL PROPOSED WELL LOCATIONS MAINTAIN THE 200-FOOT RADIUS OF SANITARY CONTROL WITHIN THE GOLF COURSE PROPERTY BOUNDARY, EXCEPT WHERE NOTED ON THE DRAWING ABOVE.
  - ALL PROPOSED WELL LOCATIONS MAINTAIN A 200-FOOT SANITARY CONTROL DISTANCE FROM SURFACE WATER RECHARGE ABSORPTION SYSTEMS FOR STORMWATER FROM PARKING LOTS, ROADWAYS OR DRIVEWAYS.
  - SANITARY SEWER OR COMBINED SEWER LINES WILL NOT BE LOCATED WITHIN 50 FEET OF ANY ONSITE WELL DEVELOPED AS A PUBLIC WATER-SUPPLY WELL. NOTE: DISCHARGE FROM THE ONSITE WASTEWATER TREATMENT FACILITY WILL BE LOCATED A MINIMUM OF 200 FEET FROM ANY ONSITE WELL DEVELOPED AS A PUBLIC WATER-SUPPLY WELL.
  - ALL ONSITE WETLANDS ARE REGULATED BY THE ARMY CORP OF ENGINEERS (ACOE) WITH THE EXCEPTION OF WETLAND NYSDEC AM-15 LABELED ON THE DRAWING ABOVE. NO WELLS ARE PROPOSED WITHIN A ACOE WETLAND BOUNDARY, A NYSDEC WETLAND BOUNDARY, OR 100-FOOT NYSDEC WETLAND ADJACENT AREA.
  - BEDROCK TEST WELLS WILL BE CONSTRUCTED IN ACCORDANCE WITH NEW YORK STATE DEPARTMENT OF HEALTH SANITARY CODE APPENDIX 5B & 5D GUIDELINES.

**LEGEND**

- PROPOSED PROPERTY BOUNDARY
- APPROXIMATE EXTENT OF FORMER LANDFILL AREA
- SURFACE-WATER FEATURE OR WATER-QUALITY POND THAT RECEIVES DIRECT, UNTREATED RUNOFF DISCHARGE FROM DEVELOPMENT AREA
- SWALE OR SURFACE-WATER FEATURE THAT RECEIVES RUNOFF DISCHARGE FROM GOLF COURSE OR TREATED OVERFLOW FROM WATER-QUALITY POND (NO DIRECT, UNTREATED DISCHARGE FROM PROPOSED DEVELOPMENT AREA)
- PROPOSED UNDERGROUND SAND FILTERS
- 100-YEAR FLOODPLAIN BOUNDARY
- WETLAND BOUNDARY
- 100-FOOT WETLAND NYSDEC ADJACENT AREA BOUNDARY
- PROPOSED TEST WELL LOCATION
- 200-FOOT SANITARY CONTROL RADIUS
- PROPERTY WILL REQUIRE AN EASEMENT IF TEST WELL 19 IS DEVELOPED AS A PUBLIC WATER-SUPPLY SOURCE



NOTE: PROPOSED WELL LOCATIONS ARE SHOWN AS SITED BY LEGGETTE, BRASHEARS & GRAHAM, INC.

Saved Tuesday, January 28, 2014 12:54:28 PM. CGCLASS Plotted Tuesday, January 28, 2014 1:00:03 PM. Cass, Colin

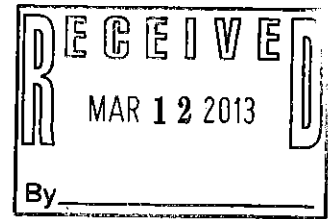




**COUNTY OF DUTCHESS**

DEPARTMENT OF HEALTH

March 7, 2014 DIVISION OF ENVIRONMENTAL HEALTH SERVICES



Stacy Stieber  
Leggette, Brashears & Graham Inc.  
4 Research Drive, Suite 301  
Shelton, CT. 06484

Re: Silo Ridge PWS  
Well Location and Specs.  
Town of Amenia

Dear Stacy:

This is to advise you that the plans and/or reports for the above referenced project have been reviewed by this department. The following is a list of review comments. The submission should be modified and/or corrected in accordance with the items listed and resubmitted to this office for further review. The submission was made on 1/31.

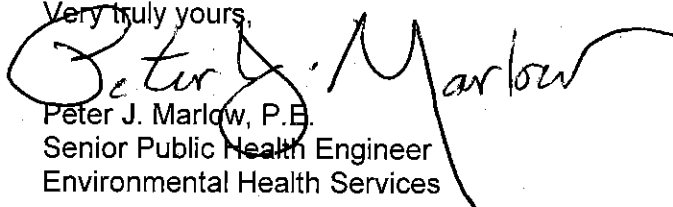
1. Are there any existing or future fertilizer and/or pesticide mixing and/or clean up areas within 200 feet of the proposed wells?
2. Given the scale provided indicate on the plans or report that the well locations must be staked out by a design professional prior to installation.
3. Are all well locations such that they are not subject to and are accessible during seasonal flooding?
4. Provide a standard public water supply well detail showing minimum casing extension above grade, pitless unit, minimum casing and grout depths, well diameter and locking capability.
5. Provide a standard application form; either the State form Gen – 296 or county form HD – 1. Provide the applicant's printed name, signature and address.
6. Provide at least a 1 inch equals 100 feet blowup of the well locations for wells 17, 18 and 19 as they appear very close to the ponds at the current scale.
7. Have the wetlands in the area of wells 23 and 25 flagged by the New York State DEC; indicate who flagged the wetlands and when.

The following issues are noted only for completeness and will not hold up the well permit process:

- A. Please investigate possible groundwater contamination as associated with both of the two landfills such that possible specific analytes may be incorporated into the future quality analysis program.
- B. In observing the proposed proximity of many of the future sources to ponds, drainage systems and golf course - watershed rules and regulations to protect the local aquifer may be required. A wellhead protection plan will likely be required.
- C. Groundwater under the direct influence of surface water evaluation will be required of all future wells. Possible wells in a carbonate aquifer will require analysis. For the wells within 200 feet of surface water a more extensive evaluation may be required including hydrogeologic assessment, MPA analysis with cryptosporidium and giardia. For the few wells proposed in very close proximity to surface water the requirement for future extra ordinary treatment seems likely.

Should you have questions regarding the above referenced comments or would like to schedule an office conference, please contact me at 486-3404.

Very truly yours,



Peter J. Marlow, P.E.  
Senior Public Health Engineer  
Environmental Health Services

PJM

cc: Brock Rogers P.E. NYSHD  
Amanda De Cesare P.E.  
file

# LEGGETTE, BRASHEARS & GRAHAM, INC.

## PROFESSIONAL GROUNDWATER AND ENVIRONMENTAL ENGINEERING SERVICES

-----  
4 RESEARCH DRIVE, SUITE 301  
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[www.lbgweb.com](http://www.lbgweb.com)

March 25, 2014

Mr. Peter Marlow, P.E.  
Senior Public Health Engineer  
Dutchess County Department of Health  
85 Civic Center Plaza, Suite 106  
Poughkeepsie, NY 12601

RE: Responses to March 7, 2014 Comment Letter  
Silo Ridge PWS  
Well Location and Specs.  
Town of Amenia

Dear Mr. Marlow:

Leggette, Brashears & Graham, Inc. (LBG) and VHB Engineering, Surveying and Landscape Architecture, P.C. (VHB) on behalf of Silo Ridge Ventures, LLC have prepared the following responses to comments received in the Dutchess County Department of Health (DCDH) letter date March 7, 2014 and New York State Department of Health (NYSDOH) email dated March 14, 2014 regarding the Application for Well Site Approval for the proposed Silo Ridge Development in Amenia, New York. The responses and support documents included with this submission are being provided as an addendum to the Application for Well Site Approval, January 29, 2014 previously submitted to the DCDH and NYSDOH by LBG.

### **DCDH Comments and LBG Responses**

#### ***Comment 1:***

*Are there any existing or future fertilizer and/or pesticide mixing and/or clean up areas within 200 feet of the proposed wells?*

#### **Response:**

There are no fertilizer or pesticide mixing/clean up areas within 200 feet of any of the proposed well sites.

#### ***Comment 2:***

*Given the scale provided indicate on the plans or report that the well locations must be staked out by a design professional prior to installation.*

**Response:**

The proposed well locations have been staked by a Professional Survey (Kirk Horton).

**Comment 3:**

*Are the well locations such that they are not subject to and are accessible during seasonal flooding?*

**Response:**

All of the proposed well locations are above the 100-year flood elevation of nearby surface-water features and no wells are located in a floodway.

Proposed Wells 17, 18, 19, 21, 23 and 25 are located close to an onsite surface-water features, wetlands or stream. Below is a table comparing grade elevation at the proposed well site to the 100-year flood elevation of the nearby surface-water feature. These wells will not be subject to seasonal flooding and will remain accessible.

| Well | Existing Elevation | Post-construction Elevation | Nearby Water Surface Elevation (100-yr) |
|------|--------------------|-----------------------------|---|
| 17   | 512.5±             | 511.5±                      | 511.5                                   |
| 18   | 548.0±             | 546.0±                      | 511.5                                   |
| 19   | 502.0±             | 504.0±                      | 503.0                                   |
| 21   | 542.0±             | 539.0±                      | 511.0                                   |
| 23   | 513.0±             | 513.0±                      | 494.0                                   |
| 25   | 502.5±             | 502.5±                      | 494.0                                   |

**Comment 4:**

*Provide a standard public water supply well detail showing minimum casing extension above grade, pitless unit, minimum casing and grout depths, well diameter and locking capability.*

**Response:**

A standard well detail diagram for this application is attached.

**Comment 5:**

*Provide a standard application form; either the State form Gen – 296 or county form HD-1. Provide the applicant's printed name, signature and address.*

**Response:**

An HD-1 for the Test Well Program for this project with the requested information is attached.

**Comment 6:**

*Provide at least a 1 inch equals 100 feet blowup of the well locations for wells 17, 18 and 19 as they appear very close to the ponds at the current scale.*

**Response:**

A blowup of the areas around Wells 17, 18 and 19 at a scale of 1 inch equals 100 feet is included on the attached figure.

**Comment 7:**

*Have the wetlands in the area of wells 23 and 25 flagged by the New York DEC; indicate who flagged the wetlands and when.*

**Response:**

The wetlands on the existing property were flagged by Chazen Engineering & Land Surveying Co., P.C. and confirmed by Heather Gierloff, New York State Department of Environmental Conservation (NYSDEC) on 11/03/2006. See Attachment B.

**Comment A:**

*Please investigate possible groundwater contamination as associated with both of the two landfills such that possible specific analytes may be incorporated into future quality analysis program.*

**Response:**

Comment noted. Environmental investigations on both landfills have been conducted. Annual monitoring of the former landfill area to the south of the proposed well sites continues and is reported to the NYSDEC. Based on the findings of the investigations, the landfill areas pose no significant concern to the water-quality at the proposed well locations. However, it is understood that future water-quality monitoring programs of the proposed supply wells may be warranted to verify that the former landfill areas continue to have no effect on water quality.

**Comment B:**

*In observing the proposed proximity of many of the future sources to ponds, drainage systems and golf course – watershed rules and regulations to protect the local aquifer may be required. A wellhead protection plan will likely be required.*

**Response:**

Comment noted.

**Comment C:**

*Groundwater under the direct influence of surface water evaluation will be required of all future wells. Possible wells in a carbonate aquifer will require analysis. For the wells within 200 feet of surface water a more extensive evaluation may be required including a hydrogeologic assessment, MPA analysis with cryptosporidium and giardia. For the few wells proposed in very close proximity to surface water the requirement for future extra ordinary treatment seems likely.*

**Response:**

Comment noted. Groundwater under the influence of surface water assessment during the yield testing phase of the test well program will be conducted in accordance with the New York State Department of Health Sanitary Code Part 5, subpart 5-1 Appendix 5-D.



**NYSDOH Comments and LBG Responses*****Comment 1:***

*The site plan describes the irrigation pond as receiving treated overflow from the water quality pond. What is treated overflow? What is the treatment? What controls the overflow to the irrigation pond? How would automotive related waste from roads and parking lots be prevented from overflowing into irrigation pond?*

**Response:**

The majority of the overland flow runoff from the site (including all runoff from roads and parking areas) is proposed to drain toward stormwater management ponds via a series of vegetated swales and pipe networks for water quality treatment before discharging into the irrigation pond. The stormwater ponds are designed according to NYSDEC standards. The forebay, permanent pool and extended detention of the stormwater ponds serve as water quality treatment devices. Stormwater pond outlet control structures are designed to control the flow into the irrigation pond via pipes. Runoff water will be detained by the stormwater ponds and no overland flow from the roads and parking areas will discharge to the irrigation pond.

***Comment 2:***

*The engineer's report by VHB indicates that wastewater treatment plant effluent will likely discharge to the irrigation pond.*

**Response:**

The irrigation pond is no longer the planned location for the effluent discharge from the onsite wastewater treatment plant. Per comments received from the New York State Department of Environmental Conservation (NYSDEC), the primary discharge from the plant is now proposed to be the Amenia Cascade Brook, which is located on the northeastern edge of the property and does not feed into any of the onsite ponds. The alternate discharge location is to the intermittent stream located near what will be Hole 18 on the golf course. This site is located just south of the club house, approximately 400 feet west of the proposed Well 24. Flow from this intermittent stream passes through two basins which receive direct runoff from the residential development area before entering the onsite irrigation pond. The wastewater from the onsite treatment plant will be treated to bathing beach standards.

***Comment 3:***

*DOH recommends simultaneous pumping of all wells during the 72-hr yield testing.*

**Response:**

The main goal of the 72-hour pumping test program is to demonstrate that the combined yield of the test wells can meet or exceed twice the average water demand with the best well out of service. To meet this requirement, typically an individual pumping test is conducted on the best well (most productive well) where the best well is pumped at a rate that exceeds the individual rates of all the other onsite wells. A simultaneous pumping test is then conducted on the remaining test wells to demonstrate that their combined yield meets or exceeds twice the average water demand.

In addition to demonstrating adequate yield, the 72-hour pumping test must also satisfy the NYSDEC "Pumping Test Procedures for Water Withdrawal Applications", March 2013.

These procedures include specific requirements for well discharge locations and surface-water monitoring. A combined yield test of all of the test wells, including the most productive well, will be conducted per the DOH comment if feasible based on the NYSDEC pumping test procedures. The design of the yield test will be discussed with the DCDH and NSYDOH prior to completion of the pumping test program.

**Comment 4:**

*Please note that a "low risk" result from a single MPA test does not mean the well are in the clear with respect to GWUDI. Additional MPA testing, other monitoring and evaluation may be required before a final GWUDI determination can be made.*

**Response:**

Comment noted. Groundwater under the influence of surface water assessment during the yield testing phase of the test well program will be conducted in accordance with the New York State Department of Health Sanitary Code Part 5, Subpart 5-1 Appendix 5-D.

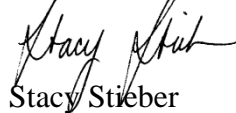
Enclosed herewith please find the following documents for your review:

1. Figure 1, VHB Engineering Surveying and Landscape Architecture, P.C., "Wells 17, 18 and 19 – Increased Scale", March 24, 2014
2. Figure 2, VHB Engineering Surveying and Landscape Architecture, P.C., "Standard Well Diagram", March 24, 2014
3. Signed HD-1 Form

If you have any question concerning this application or require additional information please contact LBG at (203) 929-8555.

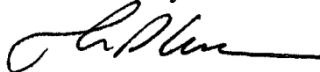
Very truly yours,

LEGGETTE BRASHEARS & GRAHAM, INC.



Stacy Stieber  
Senior Hydrogeologist

Reviewed by:



Thomas P. Cusack, CPG  
Senior Vice President

TPC:cmm

Enclosures

cc: Brock Rogers – NYSDOH  
Michael Dignacco – Stoneleaf Partners LLC  
Michael Pelczar – Stoneleaf Partners LLC  
Amanda DeCesare – VHB Engineering, Surveying and Landscape Architecture, P.C.

## **ATTACHMENTS**

# Test Well Program

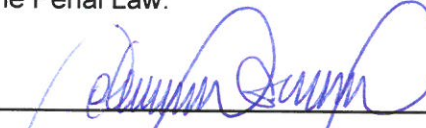
## DUTCHESS COUNTY DEPARTMENT OF HEALTH APPLICATION FOR APPROVAL OF PLANS FOR A WASTEWATER DISPOSAL SYSTEM

1. Name & address of applicant: Silo Ridge Ventures, LLC  
5021 US Route 44 Amenia, New York 12501
2. Name of Project: Silo Ridge Resort Community
3. Location: TWN/C Town of Amenia
4. Project Engineer VHB
5. Address 50 Main Street Suite 360  
White Plains, New York 10606
6. Type of Project  Private/Residential  Camp  Commercial  Apartments  
 Institutional  Mobile Home Park  Office Building  
 Food Service  Other (specify) \_\_\_\_\_  
 Realty Subdivision
7. Is this project subject to State Environmental Quality Review (SEQR)?  
Type status (check one)  Type I  Type II  Exempt  Unlisted
8. Is a Draft Environmental Impact Statement (DEIS) required? No; For Test Well Program (FTWP)
9. Has a DEIS been completed and found acceptable by the Lead Agency? N/A
10. Name of Lead Agency: N/A (FTWP)
11. Is this project in an area under the control of local Planning, Zoning or other officials, ordinances? Yes
12. If so, have plans been submitted to such authorities? N/A (FTWP)
13. Has preliminary approval been granted by such authorities? N/A (FTWP)
14. Type of sewage disposal system discharge:  Surface waters N/A (FTWP)  Ground waters
15. If surface water discharge, what is the stream class designation? N/A
16. Waters index number (surface) N/A
17. Is project located near a public water supply system? No
18. If yes, name of water supply: N/A Distance to water supply: N/A
19. Is project site near a public sewage collection or disposal system? No
20. Name of sewage system: N/A Distance to sewage system: N/A
21. Were subsurface soil tests observed by a Health Department representative? N/A (FTWP)
22. Date observed: N/A
23. Name of Health Inspector: N/A
24. Project design flow (gallons per day) Estimated average water demand = 127,612 gpd
25. Is an application for State Pollutant Discharge Elimination System (SPDES) required? N/A (FTWP)

26. Has application been submitted to local NYSDEC office? N/A (FTWP)
27. Is any portion of this project located within a designated wetland? No
28. Is a Wetland Permit required? No                      29. Has application been made to local DEC office? N/A
30. Does project require a Stream Disturbance Permit? No
31. Is project located within 1000 feet of existence of abandoned landfill, hazardous waste site, salt stockpile or any other potential known source of contamination? Yes  
 Describe: Two former landfill areas are located within 1,000 feet of project site as shown on VHB drawing "Proposed Well Locations", January 28, 2014 previously submitted. The Luther Segalle Landfill is located more than 1,000 feet south of all the proposed test well locations. The former landfill to the east of the project site is owned by the Town of Amenia and is 900 feet or more down gradient of all proposed test wells. Both former landfills are capped.
32. Does this project involve discharge or storage of industrial or hazardous wastes? No  
 Describe: N/A
33. Is there a local master plan on file with the Town, Village, City? N/A (FTWP)
34. Are community water, sewer facilities planned to be developed within 15 years? Yes; As part of the proposed Silo Ridge Resort Community Project
35. Are any sewage disposal areas in excess of 10% slope? N/A (FTWP)
36. Tax Map I.D. Number: \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ See Below\*\*
37. Approved plans are to be returned to:  Applicant                       Engineer

If the application is signed by a person other than the applicant shown in Item 1, the application must be accompanied by a letter of authorization. Failure to comply with this provision may be grounds for the rejection of any submission.

I hereby affirm, under penalty of perjury, that information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A Misdemeanor pursuant to Section 210.45 of the Penal Law.

Signatures and official titles:   
Pedro Torres for Silo Ridge Ventures, LLC

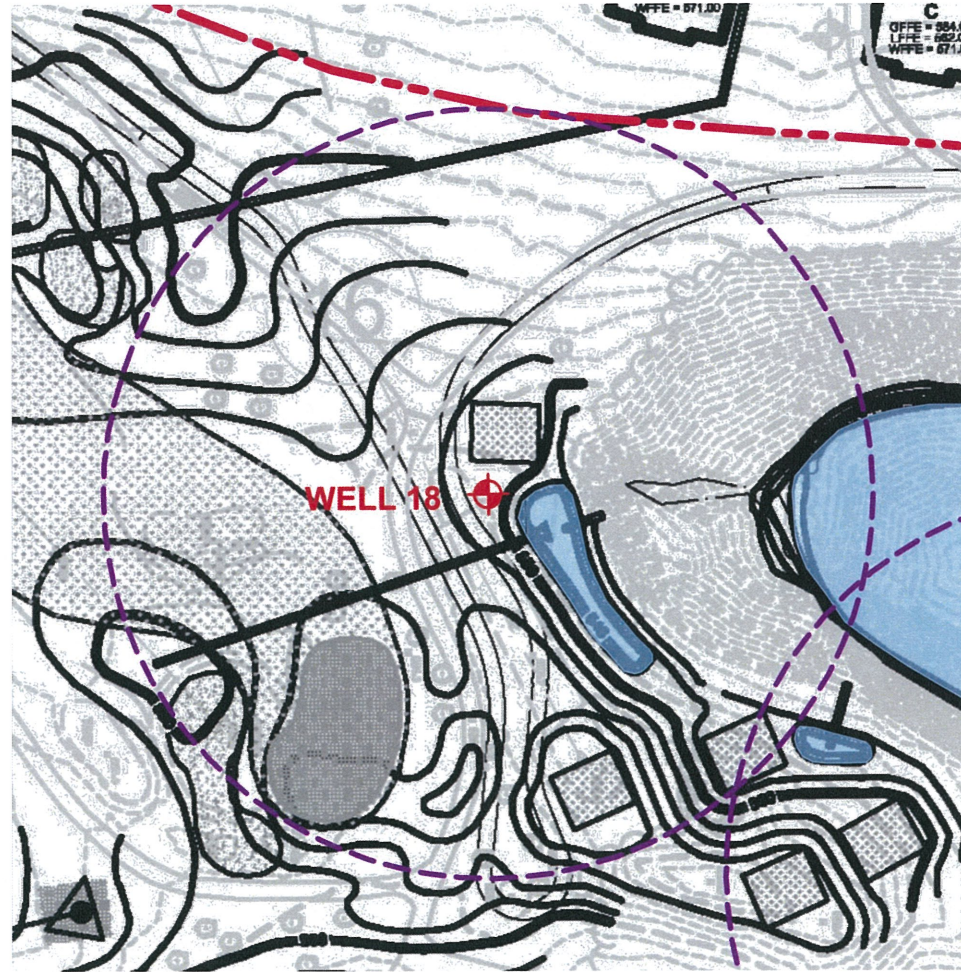
Mailing address: 5021 US Route 44  
Amenia, New York 12501

\*\*7066-00-732810, 7066-00-860725, 7067-00-742300,  
 7066-00-67017, 7067-00-709177, 7067-00-628131,  
 7066-00-870350

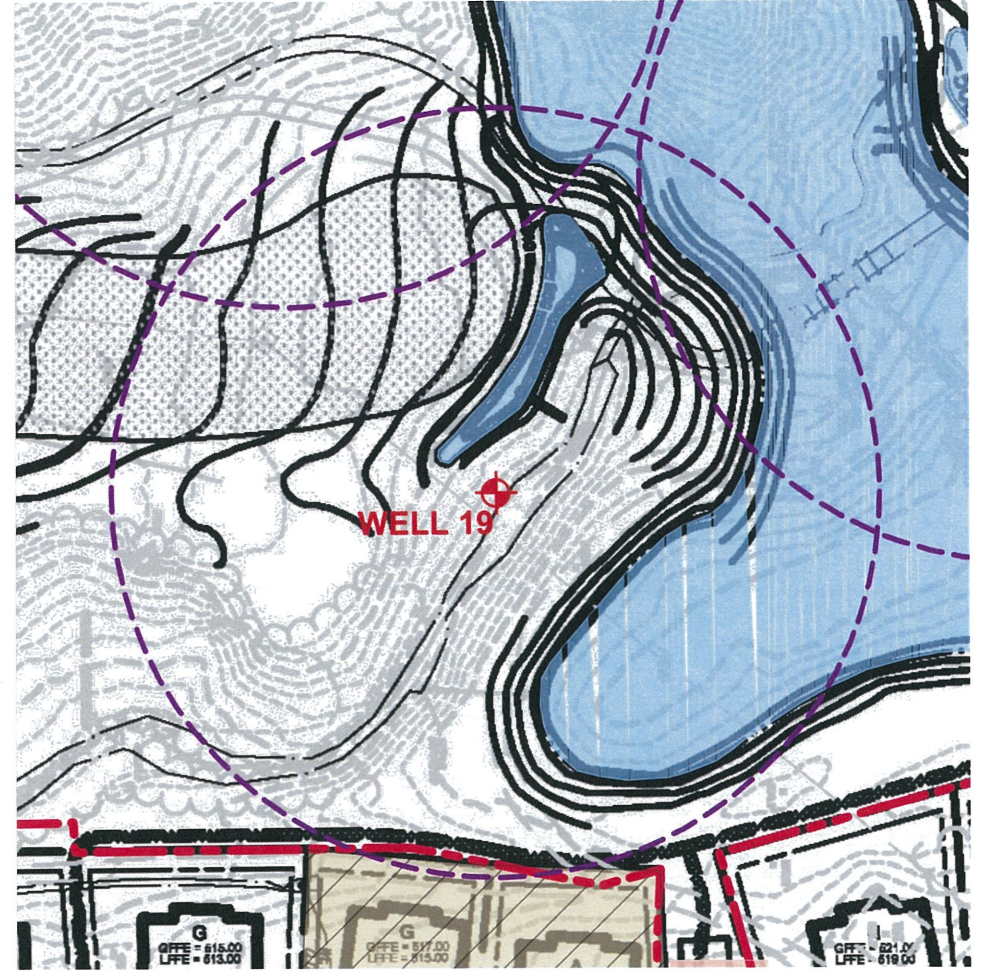




**WELL 17 PLAN VIEW**








**WELL 18 PLAN VIEW**



**WELL 19 PLAN VIEW**

**LEGEND**

-  PROPOSED PROPERTY BOUNDARY
-  SWALE OR SURFACE-WATER FEATURE THAT RECEIVES RUNOFF DISCHARGE FROM GOLF COURSE OR TREATED OVERFLOW FROM WATER-QUALITY POND (NO DIRECT, UNTREATED DISCHARGE FROM PROPOSED DEVELOPMENT AREA)
-  PROPOSED TEST WELL LOCATION
-  200-FOOT SANITARY CONTROL RADIUS
-  PROPERTY WILL REQUIRE AND EASEMENT IF TEST WELL 19 IS DEVELOPED AS A PUBLIC WATER-SUPPLY SOURCE



**NOTES:**

1. BLOW UP OF WELLS 17, 18 AND 19 FROM VHB ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C. DRAWING "PROPOSED WELL LOCATIONS", JANUARY 28, 2014.
2. THE LIGHT GRAY TOPOGRAPHIC CONTOURS IN FIGURE REPRESENT EXISTING TOPOGRAPHY, BLACK CONTOURS REPRESENT PROPOSED TOPOGRAPHY AFTER GOLF COURSE RENOVATIONS ARE COMPLETED.

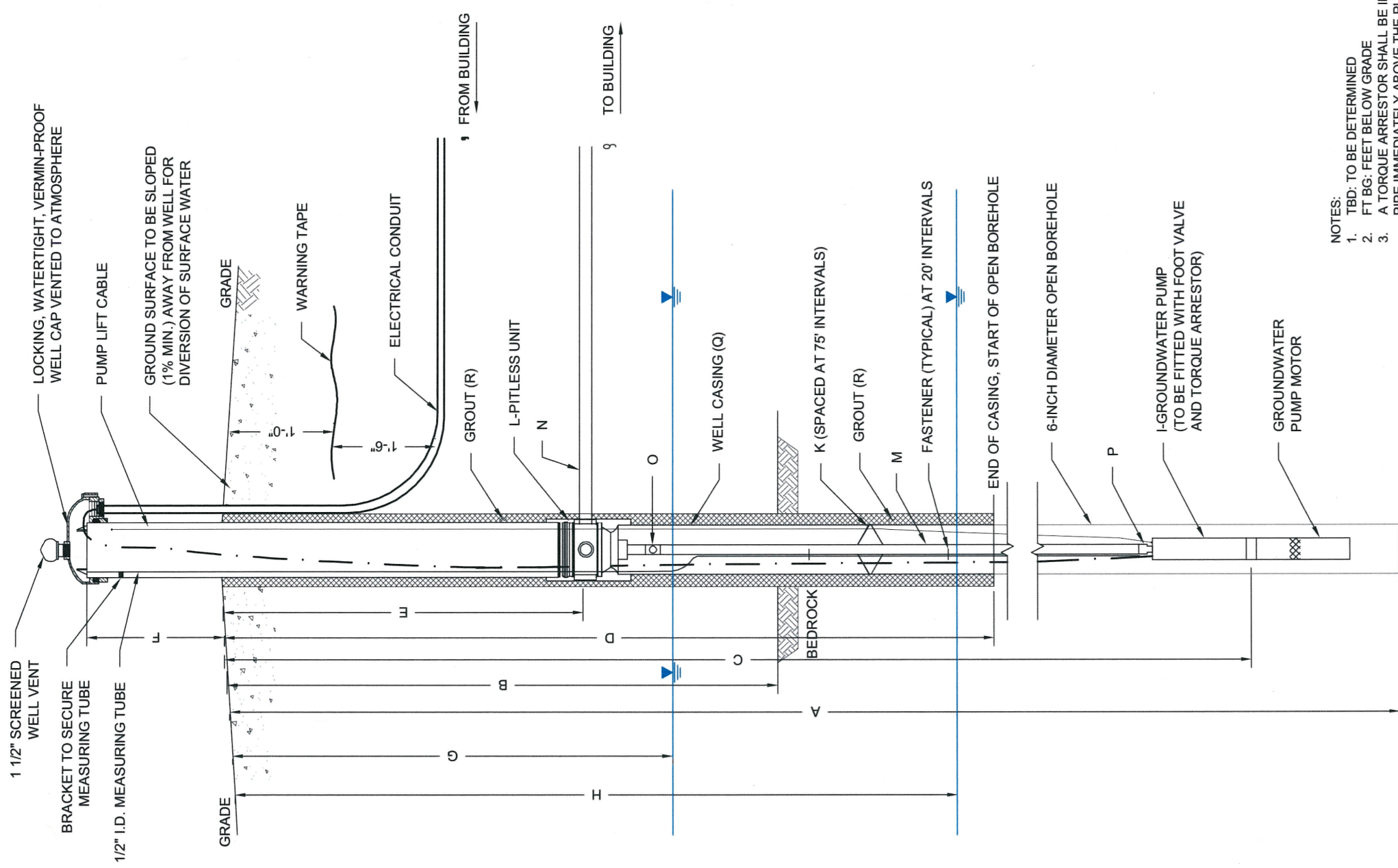
**VHB Engineering, Surveying  
and Landscape Architecture, P.C.**

Figure 1 March 24, 2014  
Wells 17, 18 and 19 - Increased Scale



*Amanda C. DeCesare*  
**Amanda C. DeCesare**  
N.Y. Professional Engineer  
NY Lic. No. 084690





- NOTES:
1. TBD: TO BE DETERMINED
  2. FT BG: FEET BELOW GRADE
  3. A TORQUE ARRESTOR SHALL BE INSTALLED ON THE RISER PIPE IMMEDIATELY ABOVE THE PUMP TO MINIMIZE MOVEMENT OF THE PUMP AND RISER PIPE WHEN THE PUMP STARTS.

| ITEM | WELL  | COMMENTS                                   |
|------|---|--|
| A    | TBD   | TOTAL DEPTH OF WELL (FT BG)                |
| B    | TBD   | DEPTH TO BEDROCK (FT BG)                   |
| C    | TBD   | PUMP PLACEMENT DEPTH (FT BG)               |
| D    | MINIMUM 50 FT BG OR 10 FT INTO BEDROCK IF DEPTH BEDROCK IS GREATER THAN 50 FT | DEPTH OF CASING                            |
| E    | 4.5   | DEPTH OF PITLESS CONNECTION (FT BG)        |
| F    | MINIMUM 1.5   | HEIGHT OF WELL CAP ABOVE GRADE (FT)        |
| G    | TBD   | STATIC WATER LEVEL (FT BG)                 |
| H    | TBD   | PUMPING WATER LEVEL (FT BG)                |
| I    | TBD   | SUBMERSIBLE PUMP, MANUFACTURER AND MODEL   |
| J    | TBD   | PUMP DESIGN FLOW AND TOTAL DYNAMIC HEAD    |
| K    | TBD   | CENTRALIZER, MANUFACTURER AND MODEL        |
| L    | TBD   | PITLESS CONNECTION, MANUFACTURER AND MODEL |
| M    | TBD   | RISER PIPE DIAMETER                        |
| N    | TBD   | DISCHARGE PIPE DIAMETER                    |
| O    | TBD   | CHECK VALVE                                |
| P    | TBD   | REDUCER                                    |
| Q    | 6-INCH  | CASING DIAMETER                            |
| R    | BOTTOM OF WELL CASING TO GRADE  | GROUT                                      |

**STANDARD WELL PROFILE**  
NOT TO SCALE

VHB Engineering, Surveying  
and Landscape Architecture, P.C.

Figure 2 March 24, 2014  
Standard Well Diagram



Amanda C. DeCesare  
N.Y. Professional Engineer  
NY Lic. No. 084690

MARCUS J. MOLINARO  
COUNTY EXECUTIVE



KARI REIBER, MD  
ACTING COMMISSIONER

**COUNTY OF DUTCHESS**  
DEPARTMENT OF HEALTH  
DIVISION OF ENVIRONMENTAL HEALTH SERVICES



March 28, 2014

Pedro Torres  
Silo Ridge Ventures, LLC  
5021 US Route 44  
Amenia, NY. 12501

RE: Silo Ridge PWS  
Well Locations and Specs.  
Town of Amenia

Dear Mr. Torres:

This Department has received plans and specifications for a proposed test well program for the above noted facility. The future sources have been indicated as wells 17 through 26. These well locations are shown on plans and reports prepared by your hydrogeologist, Stacy Stieber and engineer, Amanda DeCesare. Said plans and reports are hereby accepted by this office.

This Department has no objection to the proposed well locations. Concept approval is granted for their installation. Be advised that the wells are to be installed per the indicated plans and applicable New York State standards and that your well driller must obtain an installation permit from this office.

Also be aware that detailed plan approval must be granted by the New York State Health Department prior to possible use of these sources. The noted detailed plan approval process will address quantity and quality issues as well as treatment and connection specifics.

Further, it is your responsibility to determine and comply with other possible requirements of municipal and State codes, ordinances, rules or regulations which may also apply to this installation. As an example a NYSDEC water supply application permit is likely required. Should you have any questions regarding this correspondence or if I can be of future assistance, please call me at (845) 486-3404.

Very truly yours,

Peter J. Marlow, P.E.  
Senior Public Health Engineer  
Environmental Health Services

cc: Stacy Stieber  
Amanda DeCesare PE  
Brock Rogers PE  
MDO

File

- 223 Main Street, Beacon, New York 12508 • (845) 838-4801 • Fax (845) 838-4824
- 131 County House Road, Millbrook, New York 12545 • (845) 677-4001 • Fax (845) 677-4008
- 85 Civic Center Plaza - Suite 106, Poughkeepsie, New York 12601 • (845) 486-3404 • Fax (845) 486-3545 • TTY (845) 486-3417

HealthInfo@dutchessny.gov  
www.dutchessny.gov



# LEGGETTE, BRASHEARS & GRAHAM, INC.

## PROFESSIONAL GROUNDWATER AND ENVIRONMENTAL ENGINEERING SERVICES

4 RESEARCH DRIVE, SUITE 301  
SHELTON, CT 06484  
(203) 929-8555  
FAX (203) 926-9140  
[www.lbgweb.com](http://www.lbgweb.com)

April 29, 2014

Mr. Peter Marlow, P.E.  
Senior Public Health Engineer  
Dutchess County Department of Health  
85 Civic Center Plaza, Suite 106  
Poughkeepsie, NY 12601

RE: Application for Well Site Approval –  
Wells 27, 28, 29 and 30  
Proposed Silo Ridge Development  
4651 Route 22  
Amenia, New York

Dear Mr. Marlow:

Leggette, Brashears & Graham, Inc. (LBG) and VHB Engineering, Surveying and Landscape Architecture, P.C. (VHB) on behalf of Silo Ridge Ventures, LLC have prepared this request for approval to drill and construct up to 4 additional bedrock test wells on the Silo Ridge property in the Town of Amenia, New York. The proposed bedrock test well locations Wells 27, 28, 29 and 30 are shown on the attached drawing (Attachment I). This application is an addendum to the January 29, 2014 Well Site Approval submission for the proposed Silo Ridge Development.

### **Wells Proposed for Use**

The total target yield of water to be developed for the potable water-supply demand for the Silo Ridge Development is approximately 177 gpm (gallons per minute) with the most productive well (i.e., best well) out of service to meet twice the estimated average water demand for the proposed project. A summary of information for all of the existing wells on the property is included in Attachment II. Below is a summary of the wells drilled to date (in 2006 and 2014) that are proposed for use to meet the potable water demand.

| Well ID   | Year Drilled | Tested Yield (2006) (gpm) | Driller's Estimated Yield (gpm) |
|---|--------------|---------------------------|---------------------------------|
| Well 2  | 2006         | 100*                      | NA                              |
| Well 11   | 2006         | 65                        | NA                              |
| Well 19   | 2014         | NA                        | 18                              |
| Well 22   | 2014         | NA                        | 35                              |
| Well 25   | 2014         | NA                        | 35                              |
| Combined Yield With Best Well (Well 2) Out of Service (gpm) |              |                           | 153                             |

\* Based on the 2006 72-hour pumping test data, it is likely that the location of Well 2 can yield greater than 100 gpm. However, the well is constructed with 6.5-inch inner diameter casing which limits the size of the pump that can be installed, thereby limiting the well yield to 100 gpm.

The combined yield of the wells above with the best well out of service (Well 2) is 153 gpm, which does not meet twice the average water demand of the proposed project. The remaining onsite wells drilled have insufficient yield for consideration for use as a water-supply well or do not meet the NYSDOH sanitary control radius requirements.

### **Well Site Approval**

The proposed test well locations were chosen by LBG based on the results of a fracture-trace analysis conducted, an assessment of the locations and yields of existing onsite wells drilled to date, and to meet New York State Department of Health (NYSDOH) 100-foot radius of ownership/200-foot radius of sanitary control well siting requirements.

There are no known sources of potential pollution listed in the NYSDOH Sanitary Code Part 5 Subpart 5-1 Appendix 5-D within 200 feet of the proposed test well locations based on the proposed layout of the project site shown on the attached drawing. The 100-foot radius of ownership for all proposed well locations is contained within the property boundaries of the Silo Ridge Golf Course. The 200-foot radius of sanitary control for the proposed well sites encompasses portions of nearby proposed residential lots, but no building footprints are proposed within the 200-foot radius. A copy of the easement language for the residential properties that are affected by the 200-foot sanitary control radius for the wells is included in Attachment III.

As discussed in the January 29, 2014 submission, two former landfill areas are shown on the attached drawing. The former landfill area located south of the golf course, known as the Luther Segalle Landfill, is no longer in use and has been capped. Annual monitoring of the former landfill area is conducted and results of the monitoring are report to the NYSDEC. This former landfill area is owned by Harlem Valley Property, LLC which is an entity controlled by the applicant. The former landfill area to the east of the golf course shown on the attached drawing is owned by the Town of Amenia. This landfill area was recently capped and is no longer in use. The onsite test well locations for Silo Ridge are located 900 feet or more from these former landfill areas and none of the test well locations are located in a downgradient direction from the former landfills.

There are no fertilizer or pesticide mixing/clean up areas within 200 feet of any of the proposed well sites. All of the proposed well locations are sited above the 100-year flood elevation of nearby surface water features and no wells are located in a floodway.

The test wells will be drilled in accordance the NYSDOH, Dutchess County Health Department (DCDOH) regulations and the American Water Works Association (AWWA) Standards for public water-supply wells. A minimum of 50 feet of casing will be installed in each well drilled. The total depth of the wells will be determined based on the conditions encountered during drilling, particularly the depth and yield of the water-bearing fractures encountered in the bedrock. A water-tight cap will be placed on each well following the completion of drilling. A standard well detail diagram for this application is included in Attachment IV.

New York State Department of Environmental Conservation (NYSDEC) and Army Corp of Engineer (ACOE) regulated wetlands are located on the project site. None of the well locations selected are located within an NYSDEC wetland, NYSDEC 100-foot adjacent area wetland buffer or within an ACOE wetland. Therefore, no wetland permits will need to be obtained from these agencies prior to drilling the proposed well locations.

The design and layout of the sewer lines for the proposed development are still in the conceptual phase and have not been included on the attached drawing. However, the sanitary sewer lines will be designed to afford the required minimum of 50-foot separation distance from public water-supply wells. Additionally, the discharge location for the onsite Wastewater Treatment Facility has not been finalized. However, the location selected will be placed a minimum of 200 feet from any onsite well proposed for use as a public water-supply well. Below is a description of each proposed well location shown on the attached drawing.

**Well 27** – Well 27 is located to the southeast of the existing Well 2. Well 2 is the highest yielding well and is considered as the best well. The yield of Well 2 cannot be included in the combine well yield calculation to meet the “twice the average water demand” requirement. A location near the existing Well 2 has been proposed to maximize the available water withdrawal from this portion of the site. As discussed in the table above, based on existing pumping test data, it is likely that the location of Well 2 can yield greater than 100 gpm; however, the diameter of well restricts the pump size that can be installed. By drilling a second well in this area, the yield of the second well can be combined with the remaining proposed supply wells to meet twice the average water demand, while Well 2 remains the best well.

The 200-foot sanitary control radius for Well 27 encompasses a portion of proposed residential lots as shown on the attached drawing. If Well 27 is pursued as a public water-supply source, easements will be obtained for those properties that impact the 200-foot radius of this well location. A stream channel which will not receive direct runoff from any onsite paved or parking areas (automotive-related waste) in the development are also located within the 200-foot radius of this well.

**Well 28** – Well 28 is located north of existing Well 9. The 200-foot sanitary control radius for Well 28 encompasses a portion of proposed residential lots as shown on the attached drawing. If Well 28 is pursued as a public water-supply source, easements will be obtained for those properties that impact the 200-foot radius of this well location.

**Well 29** – Well 29 is located west of the existing Well 2. The 200-foot sanitary control radius for Well 29 encompasses a portion of proposed residential lots as shown on the attached drawing. If Well 29 is pursued as a public water-supply source, easements will be obtained for those properties that impact the 200-foot radius of this well location. A stream channel which will not receive direct runoff from any onsite paved or parking areas (automotive-related waste) in the development are also located within the 200-foot radius of this well.

**Well 30** – Well 30 is located to the south of existing Well 9. The 200-foot sanitary control radius for Well 3 is located completely within the Silo Ridge Golf Course property boundary. There are no surface-water features located within 200 feet of the proposed well site.

Any wells that are drilled and determined to have insufficient yield, will either be maintained as water-level monitor wells equipped with water-tight caps or be abandoned in accordance with NYSDOH and DCDOH protocols in the future.

Once a sufficient number of test wells have been drilled to meet the twice the average water demand of project with the best well out of service, LBG will coordinate a 72-hour pumping test program to document the stabilized yield of the wells. Because the project’s water demand exceeds 100,000 gpd (gallons per day), a water-supply permit from the NYSDEC will be required for the project, in addition to obtaining approvals from the DCDOH and NYSDOH. Therefore, the pumping test program will be designed in accordance with the NYSDEC

“Pumping Test Procedures for Water Withdrawal Applications”, March 2013. The pumping test plan will be discussed with the DCDOH prior to completion of testing.

Onsite wells (at this time, existing Wells 1 and 9) which have sufficient yield for use as supply wells but do not meet NYSDOH sanitary control requirements for potable water supply, will be considered for use as onsite irrigation wells for the golf course. Once the proposed well drilling program has been completed, and wells with sufficient yield to meet the potable water demand have been drilled, LBG will determine which of these wells can potentially be used for irrigation without negative impacts to the potable supply wells. Any well proposed for irrigation use will be included in the 72-hour pumping test to document that bedrock aquifer can support the combined irrigation and potable groundwater withdrawals.

As part of the pumping test program, water samples will be collected from the test wells and analyzed for parameters listed in the NYSDOH Sanitary Code Part 5, Subpart 5-1 for public water-supply wells. In addition, if a test well is located within 200 feet of a surface-water body, the well will also be sampled for microscopic particulate analysis as part of the groundwater under the influence of surface water (GWUDI) determination.

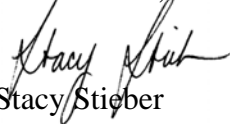
Enclosed herewith please find the following drawing for your review:

1. Drawing, VHB Engineering Surveying and Landscape Architecture, P.C., “Silo Ridge Resort Community, Well Locations on Site Plan”, April 15, 2014
2. Well Information Table
3. Easement Agreement
4. Figure, VHB Engineering Surveying and Landscape Architecture, P.C., “Standard Well Diagram”, March 24, 2014

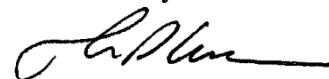
If you have any question concerning this application or require additional information please contact LBG at (203) 929-8555.

Very truly yours,

LEGGETTE, BRASHEARS & GRAHAM, INC.

  
Stacy Stieber  
Senior Hydrogeologist

Reviewed by:



Thomas P. Cusack, CPG  
Senior Vice President

TPC:etn

Enclosures

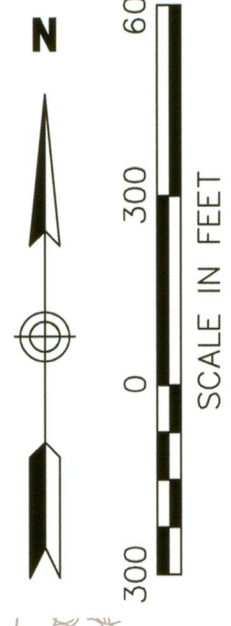
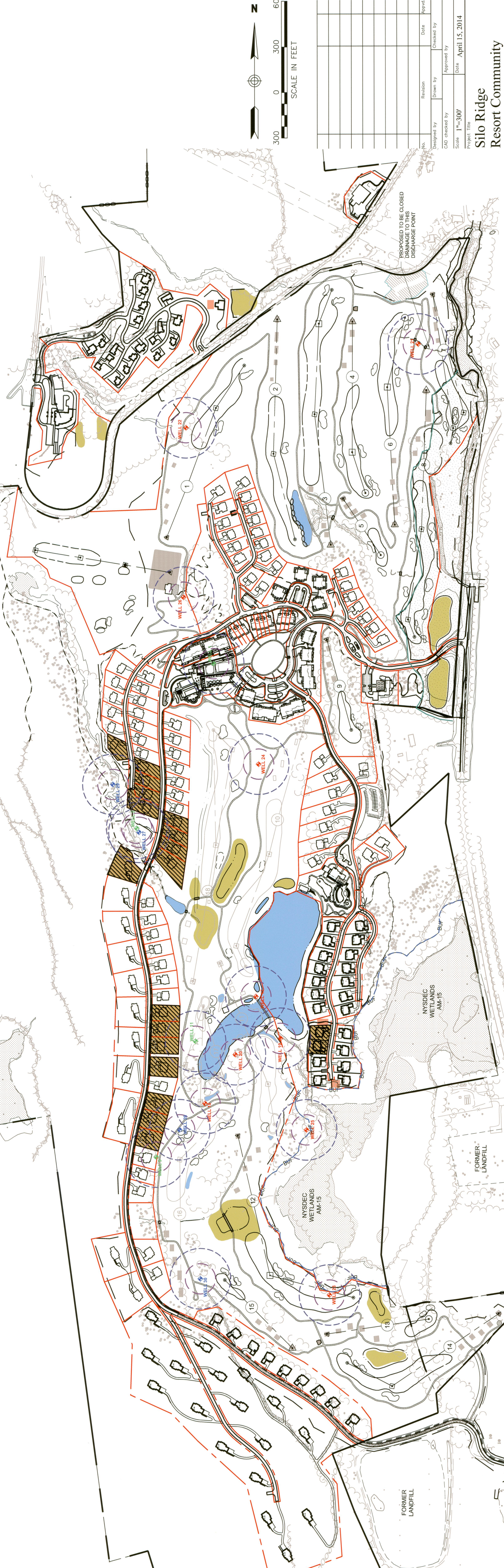
cc: Brock Rogers – NYSDOH  
Michael Dignacco – Stoneleaf Partners LLC  
Michael Pelczar – Stoneleaf Partners LLC  
Amanda DeCesare – VHB Engineering, Surveying and Landscape Architecture, P.C.

## **ATTACHMENTS**





**VHBA**  
 Engineering, Surveying  
 & Landscape Architecture, P.C.  
 Planning  
 Transportation  
 Land Development  
 Environmental Services  
 50 Main Street - Suite 360  
 White Plains, NY 10606  
 914.467.6600 • FAX 914.761.3759



| No. | Revision | Drawn By | Checked By | Date | Revised |
|-----|----------|----------|------------|------|---------|
|     |          |          |            |      |         |
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Project Title  
**Silo Ridge Resort Community**  
 Scale 1"=500'  
 CAD created by  
 Drawn by  
 Checked by  
 Approved by  
 Date April 15, 2014  
 4651 Route 22  
 Amenia, New York 12501  
 Issued for

Not Issued for Construction  
 Drawing Title  
**Well Locations on Site Plan**

**LEGEND**

|  |  |  |   |
|--|--|--|---|
|  | PROPOSED PROPERTY BOUNDARY   |  | WETLAND BOUNDARY  |
|  | APPROXIMATE EXTENT OF FORMER LANDFILL AREA   |  | 100-FOOT WETLAND NYSDEC ADJACENT AREA BOUNDARY  |
|  | SURFACE WATER FEATURE OR WATER-QUALITY POND THAT RECEIVES DIRECT, UNTREATED RUNOFF DISCHARGE FROM DEVELOPMENT AREA   |  | EXISTING WELL LOCATION  |
|  | SWALE OR SURFACE WATER FEATURE THAT RECEIVES RUNOFF DISCHARGE FROM GOLF COURSE OR TREATED OVERFLOW FROM WATER-QUALITY POND (NO DIRECT, UNTREATED DISCHARGE FROM PROPOSED DEVELOPMENT AREA) |  | PROPOSED TEST WELL LOCATION   |
|  | PROPOSED UNDERGROUND SAND FILTERS  |  | PROPOSED TEST WELL LOCATION   |
|  | 100-YEAR FLOODPLAIN BOUNDARY   |  | 100-FOOT OWNERSHIP RADIUS   |
|  |  |  | 200-FOOT SANITARY CONTROL RADIUS  |
|  |  |  | PROPERTY WILL REQUIRE AND EASEMENT IF TEST WELL 19 IS DEVELOPED AS A PUBLIC WATER-SUPPLY SOURCE |

- NOTES:**
- ALL PROPOSED WELL LOCATIONS MAINTAIN THE 100-FOOT RADIUS OF OWNERSHIP WITHIN THE GOLF COURSE PROPERTY BOUNDARY.
  - ALL PROPOSED WELL LOCATIONS MAINTAIN THE 200-FOOT RADIUS OF SANITARY CONTROL WITHIN THE GOLF COURSE PROPERTY BOUNDARY.
  - ALL PROPOSED WELL LOCATIONS MAINTAIN A 200-FOOT SANITARY CONTROL DISTANCE FROM SURFACE WATER RECHARGE ABSORPTION SYSTEMS FOR STORMWATER FROM PARKING LOTS, ROADWAYS OR DRIVEWAYS.
  - SANITARY SEWER OR COMBINED SEWER LINES WILL NOT BE LOCATED WITHIN 50 FEET OF ANY ON-SITE WELL DEVELOPED AS A PUBLIC WATER-SUPPLY WELL. NOTE: DISCHARGE FROM THE ON-SITE WELL DEVELOPED AS A PUBLIC WATER-SUPPLY WELL - A MINIMUM OF 200 FEET FROM ANY ON-SITE WELL DEVELOPED AS A PUBLIC WATER-SUPPLY WELL.
  - ALL ON-SITE WETLANDS ARE REGULATED BY THE ARMY CORP OF ENGINEERS (ACEQ) WITH THE EXCEPTION OF WETLAND NYSDEC AM-15 LABELED ON THE DRAWING ABOVE. NO WELLS ARE PROPOSED WITHIN A COE WETLAND BOUNDARY, A NYSDEC WETLAND BOUNDARY, OR 100-FOOT NYSDEC WETLAND ADJACENT AREA BOUNDARY.
  - PROPOSED WELLS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH NEW YORK STATE DEPARTMENT OF HEALTH SANITARY CODE APPENDIX 5B & 5D GUIDELINES.

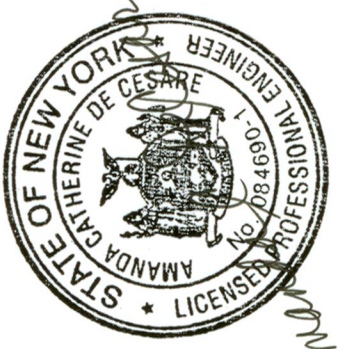
**Drilled Test Wells**

| Well ID | Yield |
|---------|-------|
| 17      | <1    |
| 18      | 4     |
| 19      | 18    |
| 20      | 3     |
| 21      | 2     |
| 22      | 35    |
| 23      | ND*   |
| 9       | 100   |
| 24      | <1    |
| 25      | 30    |
| 26      | 10    |

\* NOT DETERMINED

**Existing Wells**

| Well ID | Yield |
|---------|-------|
| 1       | 80    |
| 2       | 100   |
| 9       | 105   |
| 11      | 65    |





**SILO RIDGE PROPERTY  
AMENIA, NEW YORK**

**Summary of Existing Well Information**

| <b>Well ID</b> | <b>Drilled</b> | <b>Casing Depth (feet)</b> | <b>Total Well Depth (feet)</b> | <b>Estimated Yield (gpm)</b> | <b>Comments</b>  |
|----------------|----------------|----------------------------|--------------------------------|------------------------------|--|
| Well 1         | Unknown        | Unknown                    | 211                            | 80                           | Former clubhouse supply well. Pumping water level during yield test approx. 100' |
| Well 2         | 12/2005        | 275                        | 345                            | 100                          | Fractures 270'-285'  |
| Well 3         | 12/2005        | 41                         | 505                            | 1                            |  |
| Well 4         | 1/2006         | 102                        | 445                            | 18                           | Fractures 390'-445'  |
| Well 5         | 1/2006         | 61                         | 465                            | 20                           | Fractures 230'-235'  |
| Well 6         | 1/2006         | 105                        | 465                            | 10                           | Fracture 150'-155'   |
| Well 7         | 1/2006         | 41                         | 465                            | <1                           |  |
| Well 8         | 1/2006         | 41                         | 525                            | 7                            | Fracture at 290'   |
| Well 9         | 1/2006         | 102                        | 405                            | 105                          | Fractures between 230'-270'  |
| Well 10        | 1/2006         | 62                         | 465                            | <1                           |  |
| Well 11        | 2/2006         | 225                        | 605                            | 65                           | Fracture locations not reported.   |
| Well 12        | 2/2006         | 114                        | 465                            | 2                            |  |
| Well 13        | Unknown        | Unknown                    | Unknown                        | Unknown                      | Groundwater monitoring well  |
| Well 14        | Unknown        | Unknown                    | Unknown                        | Unknown                      | Use unknown, possibly former residential supply well.                            |
| Well 15        | Unknown        | Unknown                    | Unknown                        | Unknown                      | Supply well for existing maintenance building                                    |
| Well 16        | Unknown        | Unknown                    | Unknown                        | Unknown                      | Groundwater monitoring well  |
| Well 17        | 4/2014         | 180                        | 660                            | <1                           |  |
| Well 18        | 4/2014         | 160                        | 660                            | 4                            | Fracture at 580'   |
| Well 19        | 4/2014         | 70                         | 560                            | 18                           | Fractures at 80', 140' and 380'  |
| Well 20        | 4/2014         | 50                         | 565                            | 3                            | Fracture at 240'   |
| Well 21        | 4/2014         | 50                         | 600                            | 2                            | Fracture 280'  |
| Well 22        | 4/2014         | 50                         | 600                            | 35                           | Fractures 140' and 250'-260'. Gray, turbid water from 250'-260' fracture.        |
| Well 23        | 4/2014         | 50                         | 185                            | ND                           | Reddish turbid collapsing rock from 135'-185'.                                   |
| Well 24        | 4/2014         | 50                         | 500                            | <1                           |  |
| Well 25        | 4/2014         | 61                         | 600                            | 30                           | Fracture 90'-95', 160', 325' and 440'. Bedrock is unstable down to 140'.         |
| Well 26        | 4/2014         | 61                         | 660                            | 10                           | Fractures 260' and 410'  |

ND not determined

H:\Silo Ridge Property\Submission for Additional Well Locations\Well Summary Table.docx

## EASEMENT AGREEMENT

**EASEMENT AGREEMENT** (“Agreement”) made this \_\_\_ day of \_\_\_\_\_, 2014 (the “Effective Date”), between Silo Ridge Ventures Property A LLC (“Grantor”), a Delaware limited liability company having its office c/o Discovery Land Company, 14605 North 73<sup>rd</sup> Street, Scottsdale, Arizona 85260, and \_\_\_\_\_ (“Grantee”), a New York transportation corporation, having an office at \_\_\_\_\_.

### WITNESSETH:

**WHEREAS**, Grantor is the owner in fee simple of certain real property on which Grantee has developed certain public (community) water supply wells and appurtenances (the “Wells”) for the production of potable water for domestic consumption, which is designated on the tax assessment map of the Town of Amenia as part of \_\_\_\_\_, and is more particularly described in Exhibit “A” attached hereto (the “Easement Area”); and

**WHEREAS**, the Wells in the Easement Area are located less than the 200 foot minimum horizontal separation distance from potential sources of contamination required by 10 N.Y.C.R.R. Subpart 5-1, Appendix 5B, Section 5-B.2(c), Table 1; and

**WHEREAS**, on \_\_\_\_\_, 2014, the New York State Department of Health granted a variance to Grantee permitting the Wells to be located in the Easement Area, conditioned upon Grantor and Grantee entering into this Easement Agreement.

**NOW, THEREFORE**, in consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Grantor hereby grants, conveys, remises and releases unto Grantee, its successors and assigns forever, a perpetual, non-exclusive easement (the “Easement”) in, on, and under the Easement Area, as follows:

- 1. Prohibited Activities.** Grantor covenants and agrees that use of fertilizers, pesticides or biocides, including but not limited to insecticides, fungicides, rodenticides, and herbicides, is prohibited in, on, and under the Easement Area.
- 2. Hazardous Substances.** Grantee shall keep the Easement Area free of all Hazardous Substances and shall not cause or permit the Easement Area or any part thereof to be used for the storage, treatment, generation, transportation, processing, handling, production or disposal of any Hazardous Substances, except in accordance with Environmental Laws.

For the purposes of this Agreement and the Easement granted hereby, the term “Hazardous Substances” means all (1) urea formaldehyde foam insulation and transformers or other equipment that contains dielectric fluid containing polychlorinated biphenyls (“PCBs”), (2) any solid, liquid, gaseous or thermal contaminant, including, without limitation, smoke, vapor, soot, fumes, acids, alkalis, chemicals, waste, petroleum products or byproducts or fractions thereof, asbestos, asbestos containing materials, radioactive materials, PCBs, phosphates, lead or other

heavy metals, chlorine, mold, radon gas and any indoor air contaminant the use or presence of which, or exposure to the use or presence of which, is prohibited, limited or regulated by any Environmental Laws, (3) any solid or liquid wastes (including hazardous wastes), hazardous air pollutants, hazardous substances, hazardous chemical substances and mixtures, toxic substances, pollutants and contaminants, as such terms are defined in any Environmental Law, and (4) any other chemical, material or substance, the use or presence of which, or exposure to the use or presence of which, is prohibited, limited or regulated by any Environmental Laws.

For the purposes of this Agreement and the Easement granted hereby, the term “Environmental Laws” means all federal, state and local environmental, hazardous waste or substance, health and/or safety laws, rules, statutes, directives, binding written interpretations, binding written policies, ordinances and regulations or common law doctrines issued by any governmental authorities and in effect as of the Effective Date with respect to or which otherwise pertain to or affect the Easement Area or any portion thereof, the use, ownership, occupancy or operation of the Easement Area or any portion thereof, or Purchaser, as the same have been amended, modified or supplemented from time to time prior to the date of the Effective Date, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. § 9601 et seq.), the Hazardous Substances Transportation Act (49 U.S.C. § 1802 et seq.), the Resource Conservation and Recovery Act (42 U.S.C. § 6901 et seq.), as amended by the Hazardous and Solid Wastes Amendments of 1984, the Water Pollution Control Act (33 U.S.C. § 1251 et seq.), the Safe Drinking Water Act (42 U.S.C. § 300f et seq.), the Clean Air Act (42 U.S.C. § 7401 et seq.), the Solid Waste Disposal Act (42 U.S.C. § 6901 et seq.), the Toxic Substances Control Act (15 U.S.C. § 2601 et seq.), the Emergency Planning and Community Right-to-Know Act of 1986 (42 U.S.C. § 11001 et seq.), the Radon and Indoor Air Quality Research Act (42 U.S.C. § 7401 note, et seq.), the Superfund Amendment Reauthorization Act of 1986 (42 U.S.C. § 9601 et seq.), the National Environmental Policy Act (42 U.S.C. § 4321 et seq.), the Clean Water Act (33 U.S.C. § 1321 et seq.), and the Occupational Safety and Health Act (29 U.S.C. § 651 et seq.), comparable state and local laws, and any and all rules and regulations which have become effective prior to the Effective Date under any and all of the aforementioned laws.

**3. Grantor's Reserved Rights.** Notwithstanding any provision of this Agreement, Grantor hereby expressly reserves the rights to:

**3.1** include the Easement Area as part of the gross area of other property not subject to this Agreement for the purposes of determining density, coverage, and other lot and bulk requirements, or open space requirements, under the Zoning Law of the Town of Amenia and any other applicable laws, laws, codes, regulations, and rules controlling zoning and land use. If permitted under applicable law, the development rights which have been encumbered by this Agreement may be transferred to any other lands pursuant to a transfer of development rights scheme or cluster development arrangement or otherwise; and.

**3.2** sell, give, lease, or otherwise convey the fee title of the Easement Area (or any portion thereof) provided such conveyance is subject to the terms of this Agreement.

**4. Indemnification.** Grantee, its successors and assigns, shall defend, indemnify and hold harmless Grantor, its successors and assigns, and their respective members, partners, shareholders, directors, officers, employees, agents, and representatives (each, an “Indemnified Party”) from and against any and all liability, claims, suits, demands, damages, costs and expenses (including reasonable attorneys’ fees, costs and disbursements incurred in defense thereof) to which any Indemnified Party may be subject or suffer from bodily injury, personal injury, death or property damage, whether groundless or otherwise, arising in whole or part out of, incidental to, from, occasioned by or in connection with the Easement granted under this Agreement and the use of the Easement Area by Grantee, and its members, partners, shareholders, directors, officers, employees, agents, and representatives, whether or not due to any act, omission to act on the part of Grantee, unless the liability results from the gross negligence or willful misconduct of Grantor, its successors and/or assigns.

**5. Miscellaneous Provisions.**

**5.1** If any provision of this Agreement or the application thereof to any person or circumstance is determined by a court of competent jurisdiction to be invalid, the remainder of the provisions of this Agreement and the application of such provisions to persons or circumstances other than those as to which it is found to be invalid shall not be affected thereby.

**5.2** The terms “Grantor” and “Grantee” shall include such party’s heirs, executors, administrators, successors and assigns and shall also mean the masculine, feminine, corporate, singular or plural form of the word as needed in the context of its use.

**5.3** The captions herein have been inserted solely for convenience of reference and are not a part of this Agreement and shall have no effect upon construction or interpretation.

**5.4** This Agreement and the Easement shall be perpetual in nature, shall in all respects run with the land, and shall be binding on and inure to the benefit of the parties hereto, and their successors and assigns, and shall be recorded in the land records of the Office of the County Clerk of the County of Dutchess.

**5.5** The failure of Grantor or Grantee to insist in any one or more instances upon the strict performance of any one or more of the obligations of this Agreement, or to exercise any election herein contained, shall not be construed as a waiver or relinquishment for the future performance of such one or more obligations of this Agreement or of the right to exercise such election, but the same shall continue and remain in full force and effect with respect to any subsequent breach, act or omission.

**5.6** Unless otherwise provided for in this Agreement, any notice to be given pursuant to this Agreement shall be in writing and sent by prepaid certified U.S. mail, Return Receipt Requested, or by nationally recognized overnight courier, to the address of the

parties below specified or at such other address as may be given by written notice in the manner prescribed by this Section 5.6. Any such notices shall be deemed delivered when accepted or refused.

Grantor's address for notices shall be as follows:

Silo Ridge Ventures Property A LLC  
c/o Discovery Land Company  
14605 North 73<sup>rd</sup> Street  
Scottsdale, Arizona 85260  
Attention: \_\_\_\_\_

With a copy to:  
DelBello Donnellan Weingarten Wise & Wiederkehr, LLP  
One North Lexington Avenue  
White Plains, New York 10601  
Attention: Peter J. Wise, Esq.

Grantee's address for notices shall be as follows:

Attention: \_\_\_\_\_

With a copy to:

Attention: \_\_\_\_\_

**5.7** There have been no representations or warranties, oral or written, made by the parties hereto which are not contained in this Agreement. There shall be no modification of this Agreement other than by a written instrument executed by the parties.

**5.8** This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original and all of which together shall comprise but a single document.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed the date and year first above written.

**GRANTOR:**  
Silo Ridge Ventures Property A LLC

By: \_\_\_\_\_

Name:

Title:

**GRANTEE:**

By: \_\_\_\_\_

Name:

Title:



**ACKNOWLEDGMENTS**

STATE OF NEW YORK                    )  
COUNTY OF                            ) ss.:

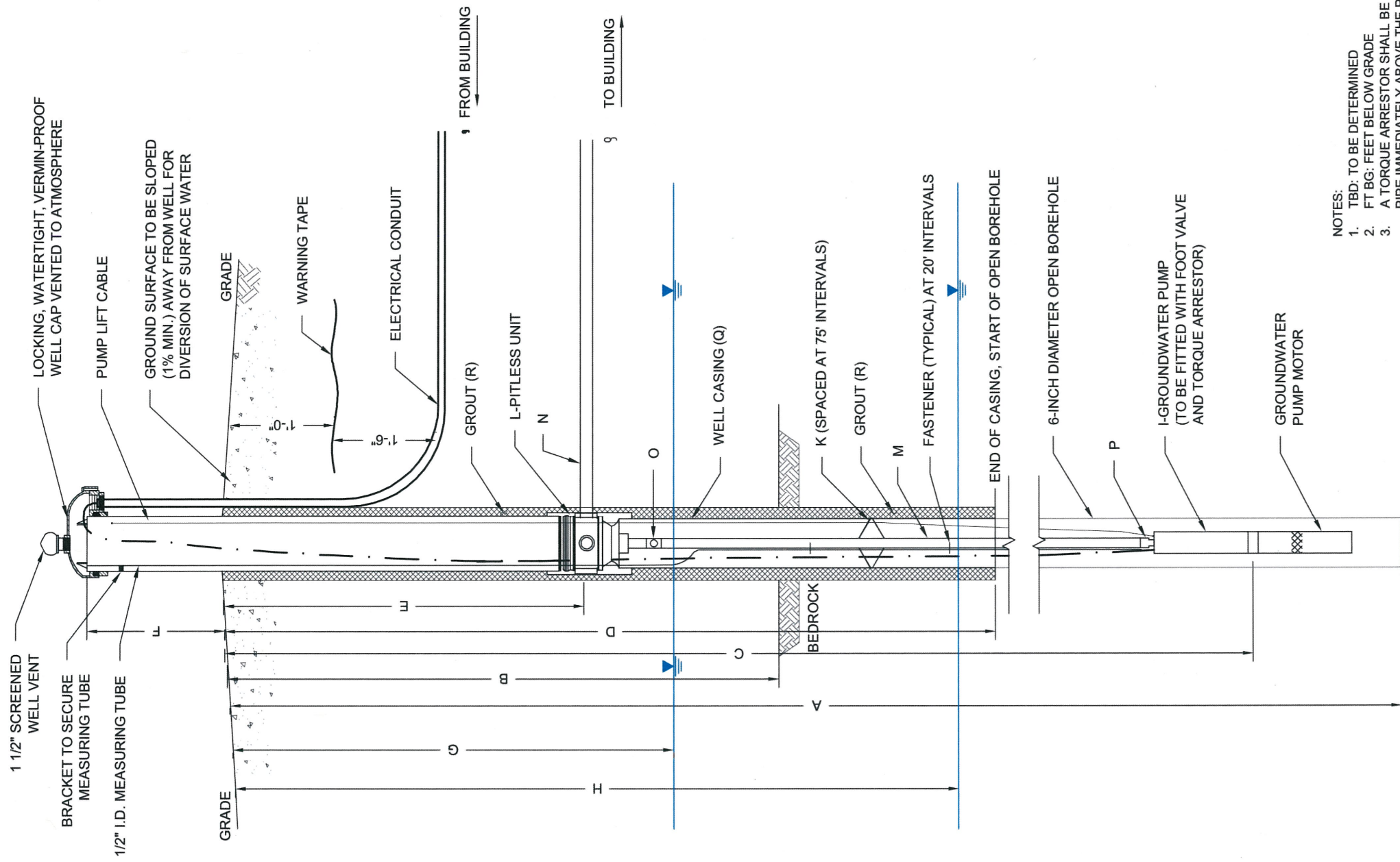
On the \_\_\_\_ day of \_\_\_\_\_, 2014, before me, the undersigned, a Notary Public in and for said State, personally appeared \_\_\_\_\_, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and he acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

\_\_\_\_\_  
Notary Public

STATE OF NEW YORK                    )  
COUNTY OF                            ) ss.:

On the \_\_\_\_ day of \_\_\_\_\_, 2014, before me, the undersigned, a Notary Public in and for said State, personally appeared \_\_\_\_\_, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and he acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

\_\_\_\_\_  
Notary Public



- NOTES:
1. TBD: TO BE DETERMINED
  2. FT BG: FEET BELOW GRADE
  3. A TORQUE ARRESTOR SHALL BE INSTALLED ON THE RISER PIPE IMMEDIATELY ABOVE THE PUMP TO MINIMIZE MOVEMENT OF THE PUMP AND RISER PIPE WHEN THE PUMP STARTS.

| ITEM | WELL  | COMMENTS                                   |
|------|---|--|
| A    | TBD   | TOTAL DEPTH OF WELL (FT BG)                |
| B    | TBD   | DEPTH TO BEDROCK (FT BG)                   |
| C    | TBD   | PUMP PLACEMENT DEPTH (FT BG)               |
| D    | MINIMUM 50 FT BG OR 10 FT INTO BEDROCK IF DEPTH BEDROCK IS GREATER THAN 50 FT | DEPTH OF CASING                            |
| E    | 4.5   | DEPTH OF PITLESS CONNECTION (FT BG)        |
| F    | MINIMUM 1.5   | HEIGHT OF WELL CAP ABOVE GRADE (FT)        |
| G    | TBD   | STATIC WATER LEVEL (FT BG)                 |
| H    | TBD   | PUMPING WATER LEVEL (FT BG)                |
| I    | TBD   | SUBMERSIBLE PUMP, MANUFACTURER AND MODEL   |
| J    | TBD   | PUMP DESIGN FLOW AND TOTAL DYNAMIC HEAD    |
| K    | TBD   | CENTRALIZER, MANUFACTURER AND MODEL        |
| L    | TBD   | PITLESS CONNECTION, MANUFACTURER AND MODEL |
| M    | TBD   | RISER PIPE DIAMETER                        |
| N    | TBD   | DISCHARGE PIPE DIAMETER                    |
| O    | TBD   | CHECK VALVE                                |
| P    | TBD   | REDUCER                                    |
| Q    | 6-INCH  | CASING DIAMETER                            |
| R    | BOTTOM OF WELL CASING TO GRADE  | GROUT                                      |

**STANDARD WELL PROFILE**  
NOT TO SCALE

VHB Engineering, Surveying  
and Landscape Architecture, P.C.

Figure 2 March 24, 2014  
Standard Well Diagram



Amanda C. DeCesare  
N.Y. Professional Engineer  
NY Lic. No. 084690

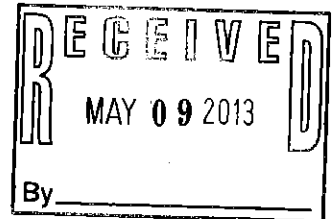


**COUNTY OF DUTCHESS**

DEPARTMENT OF HEALTH

DIVISION OF ENVIRONMENTAL HEALTH SERVICES

May 6, 2014



Stacy Stieber.  
Leggette, Brashears & Graham Inc.  
4 Research Drive, Suite 301  
Shelton, CT. 06484

Re: Silo Ridge PWS  
Well Location and Specs.  
Town of Amenia

Dear Stacy:

This is to advise you that the plans and/or reports for the above referenced project have been reviewed by this department. The following is a list of review comments. The submission should be modified and/or corrected in accordance with the items listed and resubmitted to this office for further review. The submission was made on 4/30.

1. Wells locations 2, 27, 28, and 29 are impacted by structures within 200'; therefore the required radius of control is not provided.
2. Given the scale provided indicate on the plans or report that the well locations must be staked out by a design professional prior to installation.
3. Revise the proposed easement verbiage to ensue the incorporation of all the conditions of the attached document.

Should you have questions regarding the above referenced comments or would like to schedule an office conference, please contact me at 486-3404.

Very truly yours,

Peter J. Marlow, P.E.  
Senior Public Health Engineer  
Environmental Health Services

Encl.

PJM

cc: Brock Rogers P.E. NYSHD - encl  
Amanda De Cesare P.E. - encl  
Pedro Torres  
file

□ 223 Main Street, Beacon, New York 12508 • (845) 838-4801 • Fax (845) 838-4824

□ 131 County House Road, Millbrook, New York 12545 • (845) 677-4001 • Fax (845) 677-4008

□ 85 Civic Center Plaza - Suite 106, Poughkeepsie, New York 12601 • (845) 486-3404 • Fax (845) 486-3545 • TTY (845) 486-3417

HealthInfo@dutchessny.gov

www.dutchessny.gov

A wellhead protection plan must be designed for control of a 200' radius from the community public water supply wells. The chosen mechanism shall be restrictive easements for all common land, units, and unit properties within 200' of the wells. Said easements shall be implemented and enforced as part of the future homeowners association. The development and approval process of this association shall incorporate the noted restrictions. This legal, enforceable protection shall be in place prior to the sale of any lots or use of the public water supply and is a condition of health department public water supply and realty subdivision approvals.

. Specific restrictions include the following but shall apply to unmentioned, obvious groundwater or surface water contamination chemicals and practices.

1. Auto / mechanical equipment repair and maintenance.
2. Chemical or fuel or oil storage / handling.
3. The application of lawn treatments, fertilizers, pesticides / herbicides, salts, or nitrates to any surfaces.
4. Surface or ground water drainage structures, water treatment backwash discharges, storage sheds, swimming pools, animal pens, or dog runs.

The property owner, developer, and/ or contractor shall be responsible for wellhead protection prior to the establishment of the homeowner association.

# LEGGETTE, BRASHEARS & GRAHAM, INC.

## PROFESSIONAL GROUNDWATER AND ENVIRONMENTAL ENGINEERING SERVICES

-----  
4 RESEARCH DRIVE, SUITE 301  
SHELTON, CT 06484  
(203) 929-8555  
FAX (203) 926-9140  
[www.lbgweb.com](http://www.lbgweb.com)

May 13, 2014

Mr. Peter Marlow, P.E.  
Senior Public Health Engineer  
Dutchess County Department of Health  
85 Civic Center Plaza, Suite 106  
Poughkeepsie, NY 12601

RE: Responses to May 6, 2014 Comment Letter  
Silo Ridge PWS  
Well Location and Specs.  
Town of Amenia

Dear Mr. Marlow:

Leggette, Brashears & Graham, Inc. (LBG) and VHB Engineering, Surveying and Landscape Architecture, P.C. (VHB) on behalf of Silo Ridge Ventures, LLC have prepared the following responses to comments received in the Dutchess County Department of Health (DCDH) letter date May 6, 2014 regarding the Application for Well Site Approval for the proposed Silo Ridge Development in Amenia, New York. The responses and support documents included with this submission are being provided as an addendum to the Application for Well Site Approval, April 29, 2014 previously submitted to the DCDH and NYSDOH by LBG.

### **DCDH Comments and LBG Responses**

#### ***Comment 1:***

*Wells Locations 2, 27, 28, and 29 are impacted by structures within 200'; therefore the required radius of control is not provided.*

#### **Response:**

The well locations and structures on the attached drawings have been adjusted to remove proposed structures from within the 200-foot radius of the proposed well sites. An additional proposed well location, Well 31, has also been added and is shown on the attached "Proposed Well Plan" drawing. If a successful well is completed at the location of Well 31, this new well will be used in place of Well 11.

#### ***Comment 2:***

*Given the scale provided indicate on the plans or report that the well locations must be staked out by a design professional prior to installation.*



**Response:**

The proposed well locations will be staked by a Professional Survey (Kirk Horton) prior to installation.

**Comment 3:**

*Revise the proposed easement verbiage to ensure the incorporation of all of the conditions of the attached document.*

**Response:**

The easement language has been revised to include the requested verbiage. A copy of the revised easement is attached.

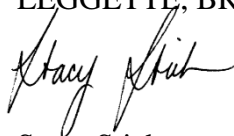
Enclosed herewith please find the following documents for your review:

1. Drawing, VHB Engineering Surveying and Landscape Architecture, P.C., "Silo Ridge Resort Community, Existing Well Plan", May 13, 2014
2. Drawing, VHB Engineering Surveying and Landscape Architecture, P.C., "Silo Ridge Resort Community, Proposed Well Plan", May 13, 2014
3. Drawing, VHB Engineering Surveying and Landscape Architecture, P.C., "Silo Ridge Resort Community, Existing and Proposed Well Plan", May 13, 2014
4. Revised Easement Agreement

If you have any question concerning this application or require additional information please contact LBG.

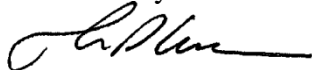
Very truly yours,

LEGGETTE, BRASHEARS & GRAHAM, INC.



Stacy Stieber  
Senior Hydrogeologist

Reviewed by:



Thomas P. Cusack, CPG  
Senior Vice President

Enclosures

cc: Brock Rogers – NYSDOH  
Michael Dignacco – Stoneleaf Partners LLC  
Michael Pelczar – Stoneleaf Partners LLC  
Amanda DeCesare – VHB Engineering, Surveying and Landscape Architecture, P.C.

## **ATTACHMENTS**

## EASEMENT AGREEMENT

**EASEMENT AGREEMENT** (“Agreement”) made this \_\_\_ day of \_\_\_\_\_, 2014 (the “Effective Date”), between Silo Ridge Ventures Property A LLC (“Grantor”), a Delaware limited liability company having its office c/o Discovery Land Company, 14605 North 73<sup>rd</sup> Street, Scottsdale, Arizona 85260, and \_\_\_\_\_ (“Grantee”), a New York transportation corporation, having an office at \_\_\_\_\_.

### WITNESSETH:

**WHEREAS**, Grantor is the owner in fee simple of certain real property on which Grantee has developed certain public (community) water supply wells and appurtenances (the “Wells”) for the production of potable water for domestic consumption, which is designated on the tax assessment map of the Town of Amenia as part of \_\_\_\_\_, and is more particularly described in Exhibit “A” attached hereto (the “Easement Area”); and

**WHEREAS**, the Wells in the Easement Area are located less than the minimum horizontal separation distances from potential sources of contamination required by 10 N.Y.C.R.R. Subpart 5-1, Appendix 5B, Section 5-B.2(c), Table 1; and

**WHEREAS**, on \_\_\_\_\_, 2014, the New York State Department of Health granted a variance to Grantee permitting the Wells to be located in the Easement Area, conditioned upon Grantor and Grantee entering into this Easement Agreement.

**NOW, THEREFORE**, in consideration of the foregoing and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Grantor hereby grants, conveys, remises and releases unto Grantee, its successors and assigns forever, a perpetual, non-exclusive easement (the “Easement”) in, on, and under the Easement Area, as follows:

**1. Prohibited Activities and Uses.** Grantor covenants and agrees that except as may be reasonably required for the operation, maintenance, repair, and/or restoration, from time to time, of the Wells, and then only to the extent necessary and in compliance with all laws, codes, regulations, and rules of any governmental authority having jurisdiction, the following activities and uses are prohibited in, on, and under the Easement Area:

- 1.1** Auto/mechanical equipment repair and maintenance;
- 1.2** Chemical, fuel or oil storage/handling
- 1.3** The application of lawn treatments, fertilizers, pesticides/herbicides, salts or nitrates to any surfaces.
- 1.4** Surface or ground water drainage structures, water treatment backwash discharges, storage sheds, swimming pools, animal pens or dog runs.

**2. Hazardous Substances.** Grantee shall keep the Easement Area free of all Hazardous Substances and shall not cause or permit the Easement Area or any part thereof to be used for the storage, treatment, generation, transportation, processing, handling, production or disposal of any Hazardous Substances, except in accordance with Environmental Laws.

For the purposes of this Agreement and the Easement granted hereby, the term “Hazardous Substances” means all (1) urea formaldehyde foam insulation and transformers or other equipment that contains dielectric fluid containing polychlorinated biphenyls (“PCBs”), (2) any solid, liquid, gaseous or thermal contaminant, including, without limitation, smoke, vapor, soot, fumes, acids, alkalis, chemicals, waste, petroleum products or byproducts or fractions thereof, asbestos, asbestos containing materials, radioactive materials, PCBs, phosphates, lead or other heavy metals, chlorine, mold, radon gas and any indoor air contaminant the use or presence of which, or exposure to the use or presence of which, is prohibited, limited or regulated by any Environmental Laws, (3) any solid or liquid wastes (including hazardous wastes), hazardous air pollutants, hazardous substances, hazardous chemical substances and mixtures, toxic substances, pollutants and contaminants, as such terms are defined in any Environmental Law, and (4) any other chemical, material or substance, the use or presence of which, or exposure to the use or presence of which, is prohibited, limited or regulated by any Environmental Laws.

For the purposes of this Agreement and the Easement granted hereby, the term “Environmental Laws” means all federal, state and local environmental, hazardous waste or substance, health and/or safety laws, rules, statutes, directives, binding written interpretations, binding written policies, ordinances and regulations or common law doctrines issued by any governmental authorities and in effect as of the Effective Date with respect to or which otherwise pertain to or affect the Easement Area or any portion thereof, the use, ownership, occupancy or operation of the Easement Area or any portion thereof, or Purchaser, as the same have been amended, modified or supplemented from time to time prior to the date of the Effective Date, including, without limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 U.S.C. § 9601 et seq.), the Hazardous Substances Transportation Act (49 U.S.C. § 1802 et seq.), the Resource Conservation and Recovery Act (42 U.S.C. § 6901 et seq.), as amended by the Hazardous and Solid Wastes Amendments of 1984, the Water Pollution Control Act (33 U.S.C. § 1251 et seq.), the Safe Drinking Water Act (42 U.S.C. § 300f et seq.), the Clean Air Act (42 U.S.C. § 7401 et seq.), the Solid Waste Disposal Act (42 U.S.C. § 6901 et seq.), the Toxic Substances Control Act (15 U.S.C. § 2601 et seq.), the Emergency Planning and Community Right-to-Know Act of 1986 (42 U.S.C. § 11001 et seq.), the Radon and Indoor Air Quality Research Act (42 U.S.C. § 7401 note, et seq.), the Superfund Amendment Reauthorization Act of 1986 (42 U.S.C. § 9601 et seq.), the National Environmental Policy Act (42 U.S.C. § 4321 et seq.), the Clean Water Act (33 U.S.C. § 1321 et seq.), and the Occupational Safety and Health Act (29 U.S.C. § 651 et seq.), comparable state and local laws, and any and all rules and regulations which have become effective prior to the Effective Date under any and all of the aforementioned laws.

**3. Grantor's Reserved Rights.** Notwithstanding any provision of this Agreement, Grantor hereby expressly reserves the rights to:

**3.1** include the Easement Area as part of the gross area of other property not subject to this Agreement for the purposes of determining density, coverage, and other lot and bulk requirements, or open space requirements, under the Zoning Law of the Town of Amenia and any other applicable laws, laws, codes, regulations, and rules controlling zoning and land use. If permitted under applicable law, the development rights which have been encumbered by this Agreement may be transferred to any other lands pursuant to a transfer of development rights scheme or cluster development arrangement or otherwise; and.

**3.2** sell, give, lease, or otherwise convey the fee title of the Easement Area (or any portion thereof) provided such conveyance is subject to the terms of this Agreement.

**4. Indemnification.** Grantee, its successors and assigns, shall defend, indemnify and hold harmless Grantor, its successors and assigns, and their respective members, partners, shareholders, directors, officers, employees, agents, and representatives (each, an “Indemnified Party”) from and against any and all liability, claims, suits, demands, damages, costs and expenses (including reasonable attorneys’ fees, costs and disbursements incurred in defense thereof) to which any Indemnified Party may be subject or suffer from bodily injury, personal injury, death or property damage, whether groundless or otherwise, arising in whole or part out of, incidental to, from, occasioned by or in connection with the Easement granted under this Agreement and the use of the Easement Area by Grantee, and its members, partners, shareholders, directors, officers, employees, agents, and representatives, whether or not due to any act, omission to act on the part of Grantee, unless the liability results from the gross negligence or willful misconduct of Grantor, its successors and/or assigns.

**5. Miscellaneous Provisions.**

**5.1** If any provision of this Agreement or the application thereof to any person or circumstance is determined by a court of competent jurisdiction to be invalid, the remainder of the provisions of this Agreement and the application of such provisions to persons or circumstances other than those as to which it is found to be invalid shall not be affected thereby.

**5.2** The terms “Grantor” and “Grantee” shall include such party’s heirs, executors, administrators, successors and assigns and shall also mean the masculine, feminine, corporate, singular or plural form of the word as needed in the context of its use.

**5.3** The captions herein have been inserted solely for convenience of reference and are not a part of this Agreement and shall have no effect upon construction or interpretation.

**5.4** This Agreement and the Easement shall be perpetual in nature, shall in all respects run with the land, and shall be binding on and inure to the benefit of the parties



hereto, and their successors and assigns, and shall be recorded in the land records of the Office of the County Clerk of the County of Dutchess.

**5.5** The failure of Grantor or Grantee to insist in any one or more instances upon the strict performance of any one or more of the obligations of this Agreement, or to exercise any election herein contained, shall not be construed as a waiver or relinquishment for the future performance of such one or more obligations of this Agreement or of the right to exercise such election, but the same shall continue and remain in full force and effect with respect to any subsequent breach, act or omission.

**5.6** Unless otherwise provided for in this Agreement, any notice to be given pursuant to this Agreement shall be in writing and sent by prepaid certified U.S. mail, Return Receipt Requested, or by nationally recognized overnight courier, to the address of the parties below specified or at such other address as may be given by written notice in the manner prescribed by this Section 5.6. Any such notices shall be deemed delivered when accepted or refused.

Grantor's address for notices shall be as follows:

Silo Ridge Ventures Property A LLC  
c/o Discovery Land Company  
14605 North 73<sup>rd</sup> Street  
Scottsdale, Arizona 85260  
Attention: \_\_\_\_\_

With a copy to:  
DelBello Donnellan Weingarten Wise & Wiederkehr, LLP  
One North Lexington Avenue  
White Plains, New York 10601  
Attention: Peter J. Wise, Esq.

Grantee's address for notices shall be as follows:

Attention: \_\_\_\_\_

With a copy to:

Attention: \_\_\_\_\_

**5.7** There have been no representations or warranties, oral or written, made by the parties hereto which are not contained in this Agreement. There shall be no modification of this Agreement other than by a written instrument executed by the parties.

**5.8** This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original and all of which together shall comprise but a single document.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed the date and year first above written.

**GRANTOR:**  
Silo Ridge Ventures Property A LLC

By: \_\_\_\_\_  
Name:  
Title:

**GRANTEE:**

By: \_\_\_\_\_  
Name:  
Title:

**ACKNOWLEDGMENTS**

STATE OF NEW YORK                    )  
COUNTY OF                               ) ss.:

On the \_\_\_\_ day of \_\_\_\_\_, 2014, before me, the undersigned, a Notary Public in and for said State, personally appeared \_\_\_\_\_, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and he acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

\_\_\_\_\_  
Notary Public

STATE OF NEW YORK                    )  
COUNTY OF                               ) ss.:

On the \_\_\_\_ day of \_\_\_\_\_, 2014, before me, the undersigned, a Notary Public in and for said State, personally appeared \_\_\_\_\_, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and he acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

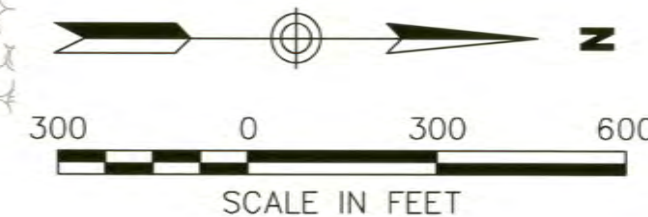
\_\_\_\_\_  
Notary Public





**Engineering, Surveying  
& Landscape Architecture, P.C.**

Planning  
Transportation  
Land Development  
Environmental Services  
50 Main Street - Suite 360  
White Plains, NY 10606  
914.467.6600 • FAX 914.761.3759



| No. | Revision | Date | Appd. |
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| CAD checked by | Approved by       |            |       |
| Scale 1"=300'  | Date May 13, 2014 |            |       |
| Project Title  |                   |            |       |

**Silo Ridge  
Resort Community**

4651 Route 22  
Amenia, New York 12501  
Issued for

Not Issued for Construction  
Drawing Title

**Existing Well Plan**

| Well ID | Yield |
|---------|-------|
| 1       | 80    |
| 2       | 100   |
| 9       | 105   |
| 11      | 65    |

| Well ID | Yield |
|---------|-------|
| 17      | <1    |
| 18      | 4     |
| 19      | 18    |
| 20      | 3     |
| 21      | 2     |
| 22      | 35    |
| 23      | ND*   |
| 24      | <1    |
| 25      | 30    |
| 26      | 10    |

\* NOT DETERMINED

- NOTES:**
- ALL PROPOSED WELL LOCATIONS MAINTAIN THE 100-FOOT RADIUS OF OWNERSHIP WITHIN THE GOLF COURSE PROPERTY BOUNDARY.
  - ALL PROPOSED WELL LOCATIONS MAINTAIN THE 200-FOOT RADIUS OF SANITARY CONTROL WITHIN THE GOLF COURSE PROPERTY BOUNDARY, EXCEPT WHERE NOTED ON THE DRAWING ABOVE.
  - ALL PROPOSED WELL LOCATIONS MAINTAIN A 200-FOOT SANITARY CONTROL DISTANCE FROM SURFACE WATER RECHARGE ABSORPTION SYSTEMS FOR STORMWATER FROM PARKING LOTS, ROADWAYS OR DRIVEWAYS.
  - SANITARY SEWER OR COMBINED SEWER LINES WILL NOT BE LOCATED WITHIN 50 FEET OF ANY ONSITE WELL DEVELOPED AS A PUBLIC WATER-SUPPLY WELL. NOTE: DISCHARGE FROM THE ONSITE WASTEWATER TREATMENT FACILITY WILL BE LOCATED A MINIMUM OF 200 FEET FROM ANY ONSITE WELL DEVELOPED AS A PUBLIC WATER-SUPPLY WELL.
  - ALL ONSITE WETLANDS ARE REGULATED BY THE ARMY CORP OF ENGINEERS (ACOE) WITH THE EXCEPTION OF WETLAND NYSDEC AM-15 LABELED ON THE DRAWING ABOVE. NO WELLS ARE PROPOSED WITHIN A ACOE WETLAND BOUNDARY, A NYSDEC WETLAND BOUNDARY, OR 100-FOOT NYSDEC WETLAND ADJACENT AREA.
  - BEDROCK TEST WELLS WILL BE CONSTRUCTED IN ACCORDANCE WITH NEW YORK STATE DEPARTMENT OF HEALTH SANITARY CODE APPENDIX 5B & 5D GUIDELINES.

**LEGEND**

- PROPOSED PROPERTY BOUNDARY
- APPROXIMATE EXTENT OF FORMER LANDFILL AREA
- SURFACE-WATER FEATURE OR WATER-QUALITY POND THAT RECEIVES DIRECT, UNTREATED RUNOFF DISCHARGE FROM DEVELOPMENT AREA
- SWALE OR SURFACE-WATER FEATURE THAT RECEIVES RUNOFF DISCHARGE FROM GOLF COURSE OR TREATED OVERFLOW FROM WATER-QUALITY POND (NO DIRECT, UNTREATED DISCHARGE FROM PROPOSED DEVELOPMENT AREA)
- PROPOSED UNDERGROUND SAND FILTERS
- 100-YEAR FLOODPLAIN BOUNDARY
- WETLAND BOUNDARY
- 100-FOOT WETLAND NYSDEC ADJACENT AREA BOUNDARY
- EXISTING WELL LOCATION
- DRILLED TEST WELL LOCATION
- 100-FOOT OWNERSHIP RADIUS
- 200-FOOT SANITARY CONTROL RADIUS
- PROPERTY WILL REQUIRE AN EASEMENT IF TEST WELL 19 IS DEVELOPED AS A PUBLIC WATER-SUPPLY SOURCE



Drawing Number  
**W-1**  
Sheet of 11  
Project Number  
29011.00

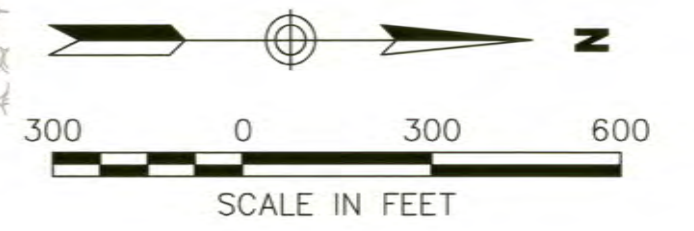




**Engineering, Surveying  
& Landscape Architecture, P.C.**

Planning  
Transportation  
Land Development  
Environmental Services

50 Main Street - Suite 360  
White Plains, NY 10606  
914.467.6600 • FAX 914.761.3759



| No. | Revision | Date | Appr. |
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| Designed by    | Drawn by          | Checked by |
| CAD checked by | Approved by       |            |
| Scale 1"=300'  | Date May 13, 2014 |            |
| Project Title  |                   |            |

**Silo Ridge  
Resort Community**

4651 Route 22  
Amenia, New York 12501

Issued for

Not Issued for Construction

Drawing Title

**Proposed Well Plan**

| Well ID | Yield |
|---------|-------|
| 1       | 80    |
| 2       | 100   |
| 9       | 105   |
| 11      | 65    |

| Well ID | Yield |
|---------|-------|
| 17      | <1    |
| 18      | 4     |
| 19      | 18    |
| 20      | 3     |
| 21      | 2     |
| 22      | 35    |
| 23      | ND*   |
| 24      | <1    |
| 25      | 30    |
| 26      | 10    |

\* NOT DETERMINED

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- LEGEND**
- PROPOSED PROPERTY BOUNDARY
  - APPROXIMATE EXTENT OF FORMER LANDFILL AREA
  - SWALE OR SURFACE-WATER FEATURE THAT RECEIVES RUNOFF DISCHARGE FROM GOLF COURSE OR TREATED OVERFLOW FROM WATER-QUALITY POND (NO DIRECT, UNTREATED DISCHARGE FROM PROPOSED DEVELOPMENT AREA)
  - PROPOSED UNDERGROUND SAND FILTERS
  - 100-YEAR FLOODPLAIN BOUNDARY
  - WETLAND BOUNDARY
  - 100-FOOT WETLAND NYSDEC ADJACENT AREA BOUNDARY
  - WELL 27
  - PROPOSED TEST WELL LOCATION
  - 100-FOOT OWNERSHIP RADIUS
  - 200-FOOT SANITARY CONTROL RADIUS
  - PROPERTY WILL REQUIRE AN EASEMENT IF TEST WELL 19 IS DEVELOPED AS A PUBLIC WATER-SUPPLY SOURCE



Drawing Number

**W-2**

Sheet of 11

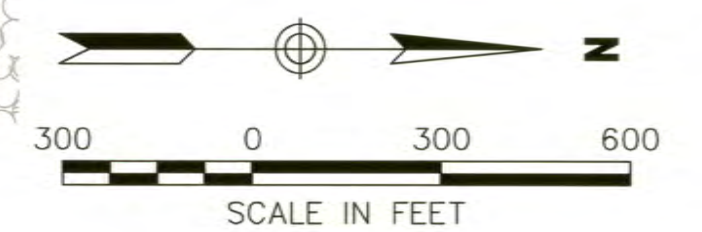
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**Engineering, Surveying  
& Landscape Architecture, P.C.**  
 Planning  
 Transportation  
 Land Development  
 Environmental Services  
 50 Main Street - Suite 360  
 White Plains, NY 10606  
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Designed by \_\_\_\_\_ Drawn by \_\_\_\_\_  
 CAD checked by \_\_\_\_\_ Approved by \_\_\_\_\_  
 Scale 1"=300' Date May 13, 2014

**Silo Ridge  
Resort Community**  
 4651 Route 22  
 Amenia, New York 12501  
 Issued for \_\_\_\_\_

Not Issued for Construction  
 Drawing Title  
**Existing and Proposed  
Well Plan**

| Well ID | Yield |
|---------|-------|
| 1       | 80    |
| 2       | 100   |
| 9       | 105   |
| 11      | 65    |

| Well ID | Yield |
|---------|-------|
| 17      | <1    |
| 18      | 4     |
| 19      | 18    |
| 20      | 3     |
| 21      | 2     |
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| 24      | <1    |
| 25      | 30    |
| 26      | 10    |

\* NOT DETERMINED

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  - 100-FOOT OWNERSHIP RADIUS
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  - PROPERTY WILL REQUIRE AN EASEMENT IF TEST WELL 19 IS DEVELOPED AS A PUBLIC WATER-SUPPLY SOURCE

Drawing Number  
**W-3**  
 Sheet of 11  
 Project Number  
 29011.00



MARCUS J. MOLINARO  
COUNTY EXECUTIVE



KARI REIBER, MD  
ACTING COMMISSIONER

**COUNTY OF DUTCHESS**  
DEPARTMENT OF HEALTH  
DIVISION OF ENVIRONMENTAL HEALTH SERVICES



May 15, 2014

Pedro Torres  
Silo Ridge Ventures, LLC  
5021 US Route 44  
Amenia, NY. 12501

RE: Silo Ridge PWS  
Well Locations and Specs.  
Town of Amenia

Dear Mr. Torres:

This Department has received plans and specifications for a proposed test well program for the above noted facility. The future sources have been indicated as wells 27 through 31. These well locations are shown on plans and reports prepared by your hydrogeologist, Stacy Stieber and engineer, Amanda DeCesare. Said plans and reports are hereby accepted by this office.

This Department has no objection to the proposed well locations. Concept approval is granted for their installation. Be advised that the wells are to be installed per the indicated plans and applicable New York State standards and that your well driller must obtain an installation permit from this office.

Also be aware that detailed plan approval must be granted by the New York State Health Department prior to possible use of these sources. The noted detailed plan approval process will address quantity and quality issues as well as treatment and connection specifics.

Further, it is your responsibility to determine and comply with other possible requirements of municipal and State codes, ordinances, rules or regulations which may also apply to this installation. As an example a NYSDEC water supply application permit is likely required. Should you have any questions regarding this correspondence or if I can be of future assistance, please call me at (845) 486-3404.

Very truly yours,

Peter J. Marlow, R.E.  
Supervising Public Health Engineer  
Environmental Health Services

cc: Stacy Stieber  
Amanda DeCesare PE  
Brock Rogers PE  
MDO

File

223 Main Street, Beacon, New York 12508 • (845) 838-4801 • Fax (845) 838-4824  
 131 County House Road, Millbrook, New York 12545 • (845) 677-4001 • Fax (845) 677-4008  
 85 Civic Center Plaza - Suite 106, Poughkeepsie, New York 12601 • (845) 486-3404 • Fax (845) 486-3545 • TTY (845) 486-3417

HealthInfo@dutchessny.gov  
www.dutchessny.gov

# LEGGETTE, BRASHEARS & GRAHAM, INC.

## PROFESSIONAL GROUNDWATER AND ENVIRONMENTAL ENGINEERING SERVICES

-----  
4 RESEARCH DRIVE, SUITE 301  
SHELTON, CT 06484  
(203) 929-8555  
FAX (203) 926-9140  
[www.lbgweb.com](http://www.lbgweb.com)

May 23, 2014

Mr. Peter Marlow, P.E.  
Senior Public Health Engineer  
Dutchess County Department of Health  
85 Civic Center Plaza, Suite 106  
Poughkeepsie, NY 12601

RE: Pumping Test Plan  
Silo Ridge Property  
Amenia, New York

Dear Mr. Marlow:

Leggette, Brashears & Graham, Inc. (LBG) has prepared the following Pumping Test Plan for the proposed 72-hour pumping test program to be conducted at the Silo Ridge property in Amenia, NY (Plate 1). This Pumping Test Plan has been designed in accordance with the New York State Department of Environmental Conservation (NYSDEC) "Pumping Test Procedures for Water Withdrawal Applications", March 2013. Potential deviations from the guidance documents procedures have been noted in the description below.

### **Pumping Wells**

The proposed Pumping Test Program will consist of an individual pumping test conducted on Well 2 (the best well) followed by a simultaneous pumping test on Wells 1, 9, 25, 28 and 31. The goal of the simultaneous test is to demonstrate that the onsite wells (both potable and irrigation wells) can reach stabilized yield and water-level drawdown under simultaneous pumping conditions at a capacity that can meet twice the average potable water demand as well as potential irrigation groundwater withdrawals for the Club. The individual test is to demonstrate the stabilized yield of the best well.

Pressure transducers will be installed in the onsite pumping wells and will be set to record water-level data at one minute intervals. Manual water-level measurements will also be collected from the pumping wells. If a transducer cannot be installed in a pumping well, LBG will attempt to collect manual measurements in accordance with the measuring schedule listed in the March 2013 NYSDEC guidance document. The water level will begin seven days prior to the start of the test to collect background water-level information. Following the end of the test program, the monitoring equipment will remain in the wells for a minimum of three days to collect water-level recovery data.

For the simultaneous well test, a staggered startup of the pumping wells will be completed on the first day of test, with a minimum of one hour between the startup of the pump in each well. The pumping rates of the test wells will be set manually using a ball valve on the discharge hose. During the test, if necessary, the pumping rate in one or more of the pumping wells may be reduced based on LBG's assessment of the stabilization trend of drawdown in the pumping well. The simultaneous pumping test will be run for a minimum of 72 hours following the start of the pump in the last well or until stabilized yield and water-level drawdown have been demonstrated in all of the pumping wells. The individual pumping test on the best well will be also be conducted for a minimum of 72 hours following the start of the pump or until stabilized yield and water-level drawdown have been demonstrated in the pumping well.

Water samples will be collected near the end of the test period from all of the potable test wells and submitted for analysis for parameters listed in the New York State Department of Health (NYSDOH) Sanitary Code Part 5, Subpart 5-1. Microscopic particulate analysis (MPA) samples will also be collected from potable test wells located within 200 feet of a surface-water body. Physical parameter measurements of pH, temperature and conductivity will also be collected from the discharge water of those potable wells located within 200 feet of a surface-water body. Similar physical parameter data will be collected from the nearby surface water for use in comparison and determination of potential GWUDI risk. Water samples will not be collected from the proposed irrigation wells (Wells 1, 9 and 25).

The water from the test wells will be pumped to waste during the test period. The discharge locations for the wells are shown on Plate 1. The discharge locations were selected to allow water to flow through the existing onsite surface-water features (which are connected through free flowing channels) and off the site. Note, for Well 25 the proposed distance from the proposed well discharge location is less than 300 feet.

The pumping rates of the all of the wells will be measured hourly with totalizing meters installed along the discharge lines.

### **Well Monitoring Locations**

Water-level measurements will be collected from approximately 21 onsite bedrock monitoring wells during the test. In addition to the onsite bedrock monitoring wells, water-level measurements will be collected from offsite bedrock supply wells. LBG estimates that two to three offsite wells will be monitored during the test period, assuming permission is granted from the property owners.

Pressure transducers will be installed in the offsite monitoring wells (if possible) and will be set to record water-level data at one minute intervals. Manual water-level measurements will also be collected from the wells. If a transducer cannot be installed in a well, LBG will collect manual measurements from the well in sufficient quantity to assess potential water-level impact and also to differentiate the well's pumping cycle from drawdown caused by pumping of the test wells. The water-level monitoring equipment installation will begin seven days prior to the start of the test to collect background water-level information. Following the end of the test program,

the monitoring equipment will remain in the wells for a minimum of three days to collect water-level recovery data.

### **Surface-Water Monitoring**

LBG will conduct a surface-water monitoring program during the test period. Piezometers will be installed in wetlands and surface-water bodies near the pumping wells (PZ-A, PZ-B, PZ-C and PZ-D). The proposed piezometer locations are show on Plate 1.

Pressure transducers will be installed in the interior and on the exterior the piezometers (assuming surface water is present) and will be set to record water-level data at 10 minute intervals. LBG will also collect manual measurements from the piezometers in sufficient quantity to assess for potential for water-level impact from pumping of the onsite test wells. The water-level monitoring equipment installation for the surface-water monitoring will begin seven days prior to the start of the test to collect background water-level information. Following the end of the test program, the monitoring equipment will remain in the wells for a minimum of three days to collect water-level recovery data.

In addition to the piezometers, stream gaging will be conducted in the stream channel near Wells 2 and 27 (if sufficient flow is present) at an upstream location, SG-1, and a downstream location, SG-2 (Plate 1). Stream gaging will also be conducted at the outflow of the Island Green Pond (Pond B on Plate 1) at location SG-3 if feasible.

During the pumping test period, downstream stream gaging location (SG-3) will be receiving discharge contribution from Well 2 and Well 27. Both discharges will be measured and recorded during the test and the data will be factored into the stream gaging data for comparison.

A minimum of three stream gaging events will be conducted during the background monitoring period prior to the start of pumping, including one immediate before the startup of the pumping wells. Stream gaging will be conducted a minimum of once per day during the test period and a minimum of one stream gaging event will also be conducted during the recovery period following the end of pumping. Additional stream gaging events will be conducted as needed should field conditions, such as the occurrence of a precipitation event, warrant it.

### **Weather Monitoring**

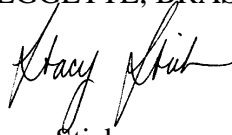
Temperature, barometric pressure and precipitation will be monitored using daily published data on the internet from a nearby weather station in Dover Plains. In addition, a manual rain gage will be installed on the site during the test period for continuous monitoring.



Thank you in advance for your time and consideration. Should you have any questions, please contact LBG at (203) 929-8555.

Very truly yours,

LEGGETTE, BRASHEARS & GRAHAM, INC.



Stacy Stieber  
Senior Hydrogeologist

Affirmed by:



Thomas P. Cusack, CPG  
Senior Vice President

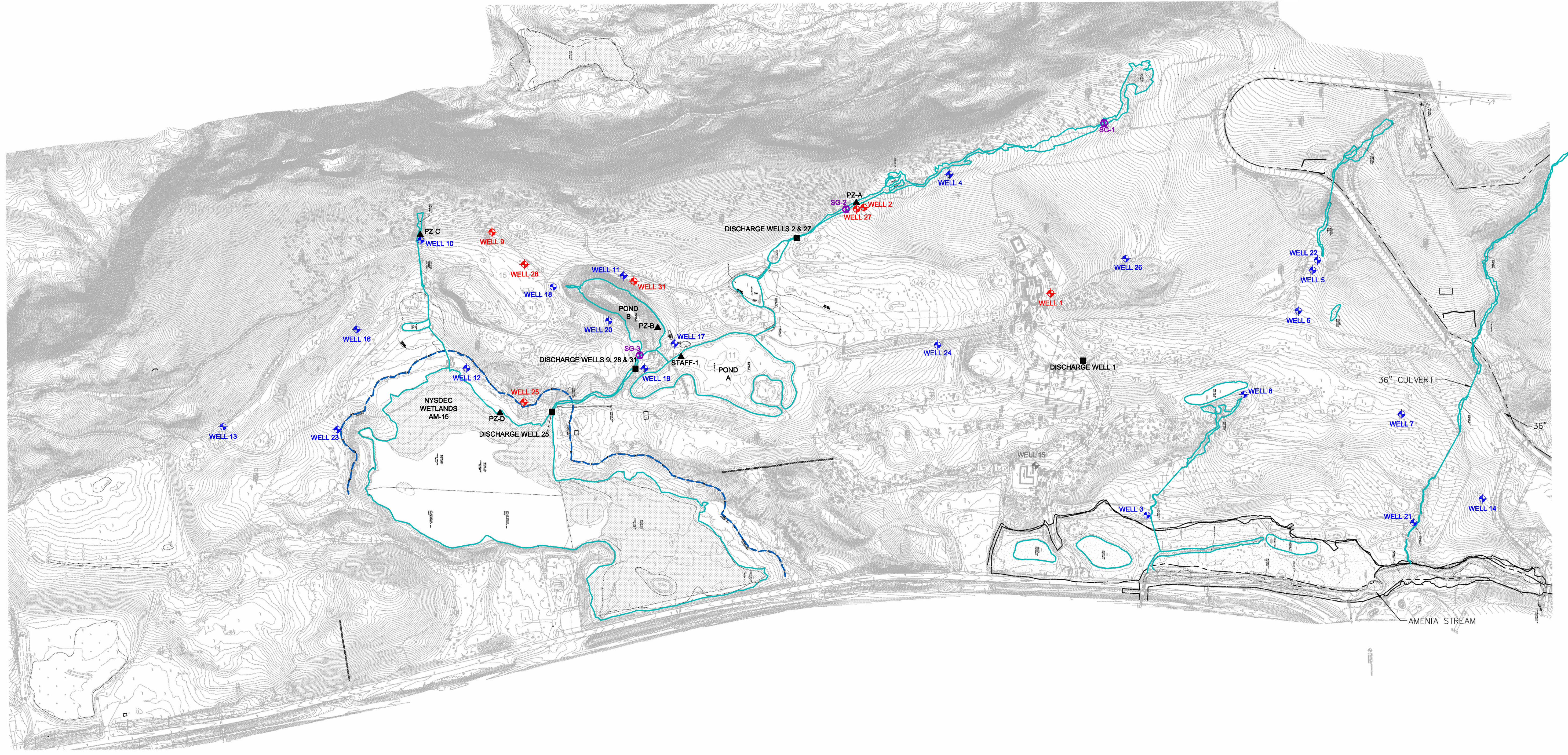
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Enclosure

cc: Brock Rogers (NYSDOH)

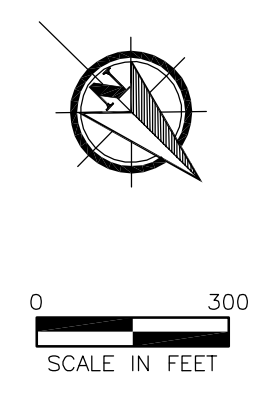
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**LEGEND**

|  |  |
|--|--|
|  | 100-FOOT WETLAND NYSDEC ADJACENT AREA BOUNDARY |
|  | EXISTING SURFACE WATER FEATURE                 |
|  | PROPOSED PUMPING WELL LOCATION                 |
|  | PROPOSED MONITORING WELL LOCATION              |
|  | APPROXIMATE PROPOSED PIEZOMETER LOCATION       |
|  | APPROXIMATE PROPOSED STREAM GAGING LOCATION    |
|  | DISCHARGE WELL 1                               |
|  | WELL 15  |



|   |             |                |   |  |  |
|---|-------------|----------------|---|--|--|
| <b>SILO RIDGE<br/>AMENIA, NEW YORK</b>              |             |                |   |  |  |
| <b>PUMPING TEST PLAN - EXISTING SITE CONDITIONS</b> |             |                |   |  |  |
| DATE  | REVISED     | PREPARED BY:   | <b>LEGGETTE, BRASHEARS &amp; GRAHAM, INC.</b><br>Professional Groundwater and Environmental Engineering Services<br>4 Research Drive<br>Suite 301<br>Shelton, Connecticut 06484<br>(203) 929-8555 |  |  |
|   |             |                |   |  |  |
| DRAWN: RAC  | CHECKED: SS | DATE: 05/22/14 | PLATE: 1  |  |  |



# LEGGETTE, BRASHEARS & GRAHAM, INC.

## PROFESSIONAL GROUNDWATER AND ENVIRONMENTAL ENGINEERING SERVICES

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4 RESEARCH DRIVE, SUITE 301  
SHELTON, CT 06484  
(203) 929-8555  
FAX (203) 926-9140  
[www.lbgweb.com](http://www.lbgweb.com)

May 23, 2014  
(Revised May 29, 2014)

Mr. Daniel Keeler, P.E.  
Senior Public Health Engineer  
Dutchess County Department of Health  
85 Civic Center Plaza, Suite 106  
Poughkeepsie, NY 12601

RE: Pumping Test Plan  
Silo Ridge Property  
Amenia, New York

Dear Mr. Keeler:

Leggette, Brashears & Graham, Inc. (LBG) has prepared the following Pumping Test Plan for the proposed 72-hour pumping test program to be conducted at the Silo Ridge property in Amenia, NY (Plate 1). This Pumping Test Plan has been designed in accordance with the New York State Department of Environmental Conservation (NYSDEC) "Pumping Test Procedures for Water Withdrawal Applications", March 2013. Potential deviations from the guidance documents procedures have been noted in the description below.

### **Pumping Wells**

The proposed Pumping Test Program will consist of an individual pumping test conducted on Well 31 (the best well) followed by a simultaneous pumping test on Wells 1, 2, 9, 11, 25, and 28. The goal of the simultaneous test is to demonstrate that the onsite wells (both potable and irrigation wells) can reach stabilized yield and water-level drawdown under simultaneous pumping conditions at a capacity that can meet twice the average potable water demand as well as potential irrigation groundwater withdrawals for the Club. The individual test is to demonstrate the stabilized yield of the best well.

Pressure transducers will be installed in the onsite pumping wells and will be set to record water-level data at one-minute intervals. Manual water-level measurements will also be collected from the pumping wells. If a transducer cannot be installed in a pumping well, LBG will attempt to collect manual measurements in accordance with the measuring schedule listed in the March 2013 NYSDEC guidance document. The water level will begin seven days prior to the start of the test to collect background water-level information. Following the end of the test

program, the monitoring equipment will remain in the wells for a minimum of three days to collect water-level recovery data.

For the simultaneous well test, a staggered startup of the pumping wells will be completed on the first day of test, with a minimum of one hour between the startup of the pump in each well. The pumping rates of the test wells will be set manually using a ball valve on the discharge hose. During the test, if necessary, the pumping rate in one or more of the pumping wells may be reduced based on LBG's assessment of the stabilization trend of drawdown in the pumping well. The simultaneous pumping test will be run for a minimum of 72 hours following the start of the pump in the last well or until stabilized yield and water-level drawdown have been demonstrated in all of the pumping wells. The individual pumping test on the best well will also be conducted for a minimum of 72 hours following the start of the pump or until stabilized yield and water-level drawdown have been demonstrated in the pumping well.

Water samples will be collected near the end of the test period from all of the potable test wells and submitted for analysis for parameters listed in the New York State Department of Health (NYSDOH) Sanitary Code Part 5, Subpart 5-1. Microscopic particulate analysis (MPA) and *giardia* and *cryptosporidium* samples will also be collected from potable test wells located within 200 feet of a surface-water body. Physical parameter measurements of pH, temperature and conductivity will also be collected from the discharge water of those potable wells located within 200 feet of a surface-water body. Similar physical parameter data will be collected from the nearby surface water for use in comparison and determination of potential GWUDI risk. Water samples will not be collected from the proposed irrigation wells (Wells 1 and 9).

The water from the test wells will be pumped to waste during the test period. The discharge locations for the wells are shown on Plate 1. The discharge locations were selected to allow water to flow through the existing onsite surface-water features (which are connected through free flowing channels) and off the site. Note, for Well 25 the proposed distance from the proposed well discharge location is less than 300 feet.

The pumping rates of all of the wells will be measured hourly with totalizing meters installed along the discharge lines.

*Note, the proposed sequence of wells to be tested (Wells 1, 2, 9, 11, 25, 28 and 31) is based on preliminary yield information. As the test progresses through the equipment installation and mechanical checks into the pumping phase, the proposed sequence of pumping may change (for example we may choose to not pump one of the irrigation wells if significant mutual interference is observed during testing). However, this will not affect the basic plan to conduct an individual test on the best well and a simultaneous test on the balance of the wells that will be utilized for the potable and irrigation water supply on the property. Additionally, changes in the pumping sequence will not affect the proposed water-level monitoring or data collection plan as described in this Pumping Test Plan.*



### **Well Monitoring Locations**

Water-level measurements will be collected from approximately 20 onsite bedrock monitoring wells during the test. In addition to the onsite bedrock monitoring wells, water-level measurements will be collected from offsite bedrock supply wells. LBG estimates that two to three offsite wells will be monitored during the test period, assuming permission is granted from the property owners.

Pressure transducers will be installed in the offsite monitoring wells (if possible) and will be set to record water-level data at one minute intervals. Manual water-level measurements will also be collected from the wells. If a transducer cannot be installed in a well, LBG will collect manual measurements from the well in sufficient quantity to assess potential water-level impact and also to differentiate the well's pumping cycle from drawdown caused by pumping of the test wells. The water-level monitoring equipment installation will begin seven days prior to the start of the test to collect background water-level information. Following the end of the test program, the monitoring equipment will remain in the wells for a minimum of three days to collect water-level recovery data.

### **Surface-Water Monitoring**

LBG will conduct a surface-water monitoring program during the test period. Piezometers will be installed in wetlands and surface-water bodies near the pumping wells (PZ-A, PZ-B, PZ-C, PZ-D and PZ-E). The proposed piezometer locations are show on Plate 1.

Pressure transducers will be installed in the interior and on the exterior the piezometers (assuming surface water is present) and will be set to record water-level data at 10-minute intervals. LBG will also collect manual measurements from the piezometers in sufficient quantity to assess for potential for water-level impact from pumping of the onsite test wells. The water-level monitoring equipment installation for the surface-water monitoring will begin seven days prior to the start of the test to collect background water-level information. Following the end of the test program, the monitoring equipment will remain in the wells for a minimum of three days to collect water-level recovery data.

In addition to the piezometers, stream gaging will be conducted in the stream channel near Well 2 (if sufficient flow is present) at an upstream location, SG-1, and a downstream location, SG-2 (Plate 1). Stream gaging will also be conducted at the *outflows of Ponds A and B* (Plate 1) at location SG-3 and SG-4, if feasible.

During the pumping test period, downstream stream gaging location (SG-4) will be receiving discharge contribution from Well 2. The discharge will be measured and recorded during the test and the data will be factored into the stream gaging data for comparison.

A minimum of three stream gaging events will be conducted during the background monitoring period prior to the start of pumping, including one immediate before the startup of the pumping wells. Stream gaging will be conducted a minimum of once per day during the test

period and a minimum of one stream gaging event will also be conducted during the recovery period following the end of pumping. Additional stream gaging events will be conducted as needed should field conditions, such as the occurrence of a precipitation event, warrant it.

**Weather Monitoring**

Temperature, barometric pressure and precipitation will be monitored using daily published data on the internet from a nearby weather station in Dover Plains. In addition, a manual rain gage will be installed on the site during the test period for continuous monitoring.

Thank you in advance for your time and consideration. Should you have any questions, please contact LBG at (203) 929-8555.

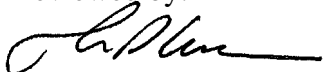
Very truly yours,

LEGGETTE, BRASHEARS & GRAHAM, INC.



Stacy Stieber, CPG  
Senior Hydrogeologist

Reviewed by:



Thomas P. Cusack, CPG  
Senior Vice President

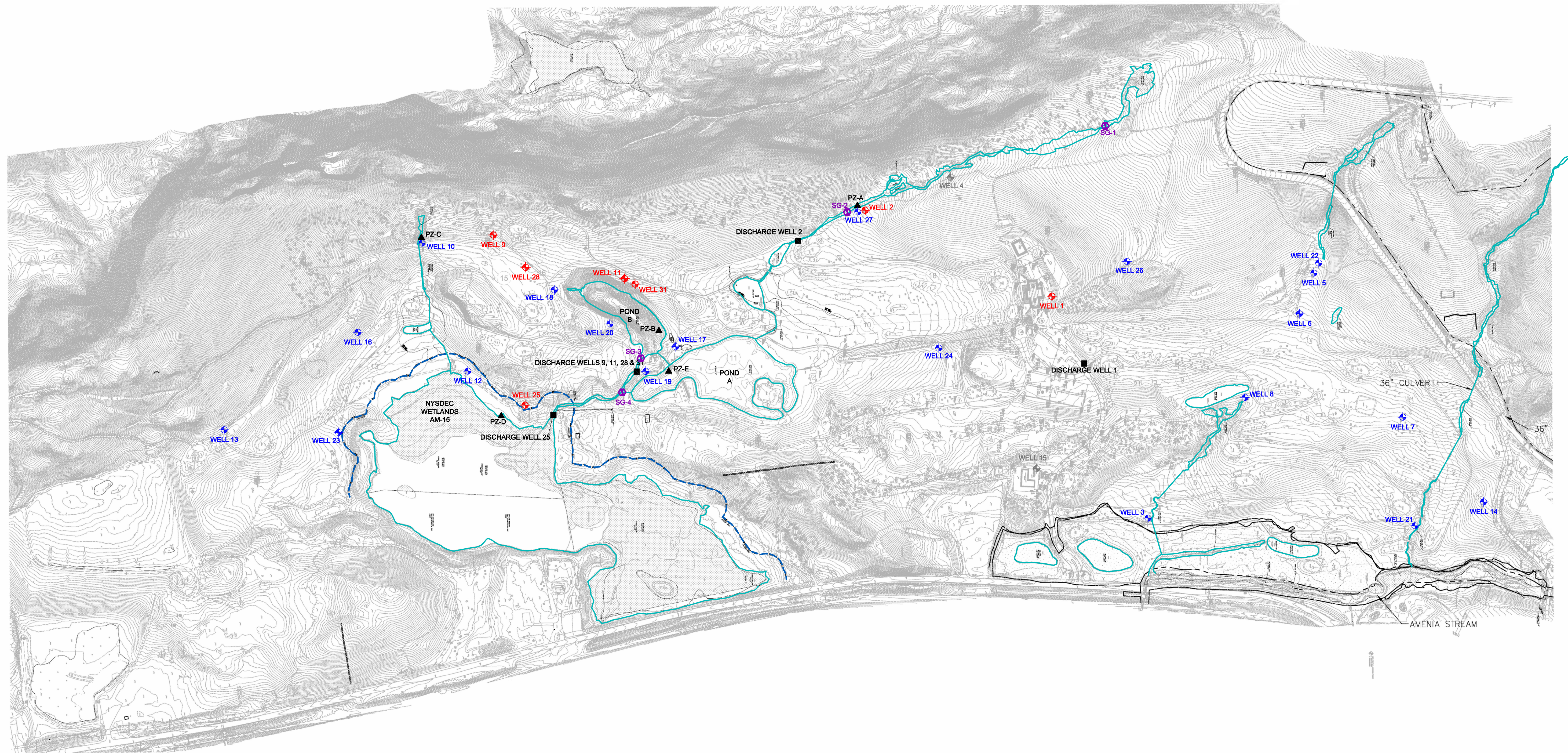
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Enclosure

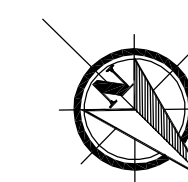
cc: Brock Rogers (NYSDOH)

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- LEGEND**
- 100-FOOT WETLAND NYSDEC ADJACENT AREA BOUNDARY
  - EXISTING SURFACE WATER FEATURE
  - PROPOSED PUMPING WELL LOCATION
  - PROPOSED MONITORING WELL LOCATION
  - ▲ APPROXIMATE PROPOSED PIEZOMETER LOCATION
  - APPROXIMATE PROPOSED STREAM GAGING LOCATION
  - APPROXIMATE PROPOSED WELL DISCHARGE LOCATION
  - WELL COULD NOT BE LOCATED/WELL NOT ACCESSIBLE



0 300  
SCALE IN FEET

## SILO RIDGE AMENIA, NEW YORK

### PUMPING TEST PLAN - EXISTING SITE CONDITIONS

| DATE          | REVISED | PREPARED BY:    |   |
|---------------|---------|-----------------|---|
|               |         |                 |  <b>LEGGETTE, BRASHEARS &amp; GRAHAM, INC.</b><br>Professional Groundwater and Environmental Engineering Services<br>4 Research Drive<br>Suite 301<br>Shelton, Connecticut 06484<br>(203) 929-8555 |
|               |         |                 |   |
|               |         |                 |   |
|               |         |                 |   |
| <b>DRAWN:</b> | RAC     | <b>CHECKED:</b> | SS  |
|               |         | <b>DATE:</b>    | 05/29/14  |
|               |         | <b>PLATE:</b>   | 1   |

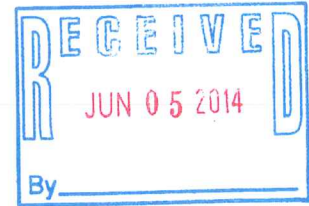


MARCUS J. MOLINARO  
COUNTY EXECUTIVE



KARI REIBER, MD  
ACTING COMMISSIONER

**COUNTY OF DUTCHESS**  
DEPARTMENT OF HEALTH  
DIVISION OF ENVIRONMENTAL HEALTH SERVICES



June 2, 2014

Stacy Stieber, CPG – Senior Hydrogeologist  
Leggette, Brashears & Graham, Inc.  
Professional Groundwater and Environmental Engineering Services  
4 Research Drive, Suite 301  
Shelton, CT 06484

Re: Silo Ridge Property – Pumping Test Plan  
Tax Map ID # 01-7066-00-732810  
Town of Amenia

Dear Ms. Stieber:

This office is in receipt of a report outlining the proposed pump test and quality testing for wells 1, 2, 9, 11, 25, 28 and 31 on the above-referenced property. This office, in consultation with New York State Department of Health, has reviewed the latest submission dated May 29, 2014 and has no objections or comments in regards to this proposal. Please be sure that wells 1 - 16, whose locations were approved prior to the layout being revised, continue to meet all applicable separation requirements.

If you have any questions regarding this correspondence, please feel free to contact me at (845) 486-3404.

Yours very truly,

Daniel J. Keeler  
Public Health Engineer  
Environmental Health Services

cc: File (097-0043849)  
Town of Amenia Bldg. Inspector