BEFORE THE MILFORD TOWNSHIP BOARD OF SUPERVISORS

CONDITIONAL USE APPLICATION OF NATIONAL LAND DEVELOPERS, LLC

APPLICANT'S EXHIBITS A-22 to A-24

(Hearing July 25, 2023)

John A. VanLuvanee, Esquire
Eastburn and Gray, P.C.
PO Box 1342
Doylestown, Pa 18901
215-345-7000
jvanluvanee@eastburngray.com

EXHIBIT INDEX

Exhibit A-22

pennsylvania
OFFICE OF OPEN RECORDS

Standard Right-to-Know Law Request Form

Good communication is vital in the RTKL process. Complete this form thoroughly and retain a copy; it may be required if an appeal is filed. You have 15 business days to appeal after a request is denied or deemed denied.

SUBMITTED TO AGENCY NAME: Milford Water Authority (Attn: AORO)

Date of Request: July 3, 2023 Submitted via: ☒ Email ☐ U.S. Mail ☐ Fax ☐ In Person

PERSON MAKING REQUEST:

Name: John A VanLuvanee Company (if applicable): _____

Mailing Address: 60 E Court Street, PO Box 1389

City: Doylestown State: PA Zip: 18901 Email: jvanluvanee@eastburngray.com

Telephone: 215-345-1342 Fax: 215-345-3528

How do you prefer to be contacted if the agency has questions? ☐ Telephone ☒ Email ☐ U.S. Mail

RECORDS REQUESTED: *Be clear and concise. Provide as much specific detail as possible, ideally including subject matter, time frame, and type of record or party names. RTKL requests should seek records, not ask questions. Requesters are not required to explain why the records are sought or the intended use of the records unless otherwise required by law. Use additional pages if necessary.*

See attached page for complete list

DO YOU WANT COPIES? ☐ Yes, printed copies (*default if none are checked*)
☒ Yes, electronic copies preferred if available
☐ No, in-person inspection of records preferred (*may request copies later*)

Do you want certified copies? ☐ Yes (*may be subject to additional costs*) ☒ No
RTKL requests may require payment or prepayment of fees. See the Official RTKL Fee Schedule for more details.
Please notify me if fees associated with this request will be more than ☐ $100 (or) ☒ $250.00.

ITEMS BELOW THIS LINE FOR AGENCY USE ONLY

Tracking: _____ Date Received: _____ Response Due (5 bus. days): _____

30-Day Ext.? ☐ Yes ☐ No (If Yes, Final Due Date: _____) Actual Response Date: _____

Request was: ☐ Granted ☐ Partially Granted & Denied ☐ Denied Cost to Requester: $_____

☐ Appropriate third parties notified and given an opportunity to object to the release of requested records.

NOTE: In most cases, a completed RTKL request form is a public record.
More information about the RTKL is available at https://www.openrecords.pa.gov

Form updated Feb. 3, 2020

Requested Records

Copy of Giddings, T., 1997. An Evaluation of the FAW Associates Gravel Pit, Milford Township, Pike County, PA, Report prepared for the Milford Water Authority.

Copy of Giddings, T., 1998, An Evaluation of the January 28, 1998, Report on the Gravel Pit Prepared by the DEP Bureau of Mining and Reclamation, Report prepared for the Milford Water Authority.

Copy of Swistock, B.R., and DeWalle, DR. 1989, Stable Isotope Study for the Source of Water for Two Kame Terrane Springs in Pennsylvania, The Pennsylvania State University School of Forestry Resources.

Copy of Gannet, Fleming, Corddry & Carpenter, Inc. 1968. Effects of the Construction of Interstate Route 84 on the Sources of Water Supply of the Municipal Authority of the Borough of Milford PA,

Copy of the groundwater elevation data collected from residential wells as part of the Authority's Source Water Protection Study.

Copies of reports, correspondence or findings from T. Giddings related to the evaluation of the Proposed Mall and the investigations conducted in the 1980s and 1990s related to Sawkill Creek or the general vicinity of the springs that are mentioned in the Authority's Source Water Protection Plan

Copy of any hydrogeological report or SWIP Study relating to a well referenced at page 6 of the Source Water Protection Plan that was drilled by or for the Authority approximately 4000 feet from the Milford Spring near I-84.1

Exhibit A-23

John A. VanLuvanee

From: Water Office <waterofc@milfordpawater.com>
Sent: Tuesday, July 11, 2023 12:54 PM
To: John A. VanLuvanee
Cc: John Klemeyer
Subject: Right to Know Request #1
Attachments: Todd Giddings Gravel Pit.pdf; REPORT An Evaluation of the FWW Associates Gravel Pit Milford Township Pike County March 1997.pdf; Stable Isotope Study of Scurces of Water for Two Kame Terrace Springs.pdf; 22 FIELD DATA SHEETS FROM THE INVENTORY OF NEARBY WELLS.pdf; An Evaluation of the FAW Associates Gravel Pit 3-27-97.pdf; Todd Giddinging Tracer Test.pdf; Todd Giddings Milprop.pdf; RTK Invoice 7-10-23.pdf

Mr. VanLuvanee,

I have attached to this email and following emails, copies of requested documents we have been able to find in our archives. We have worked on this with Mr. Giddings diligently. Attached is an invoice for clerical work.

There are 10 attachments in all, which include the invoice.

Three separate emails, due to size of the documents.

Thank you,
Nick May

THE OFFICE OF MILFORD WATER AUTHORITY
NICK MAY
SUPERINTENDENT
WaterOfc@milfordpawater.com
151 Old Owego Turnpike
P. O. Box 459
Milford, PA 18337
(570) 296-6556

John A. VanLuvanee

From: Water Office <waterofc@milfordpawater.com>
Sent: Tuesday, July 11, 2023 12:55 PM
To: John A. VanLuvanee
Cc: John Klemeyer
Subject: Right to Know Request #2
Attachments: Effects of the Construction of Interstate Route 84 05162023.pdf

Continued document attachments

Thank you,
Nick May

THE OFFICE OF MILFORD WATER AUTHORITY
NICK MAY
SUPERINTENDENT
WaterOfc@milfordpawater.com
151 Old Owego Turnpike
P. O. Box 459
Milford, PA 18337
(570) 296-6556

John A. VanLuvanee

From: Water Office <waterofc@milfordpawater.com>
Sent: Tuesday, July 11, 2023 12:55 PM
To: John A. VanLuvanee
Cc: John Klemeyer
Subject: Right to Know Request #3
Attachments: Effects of the Construction of Interstate Route 84 -205162023.pdf

Continued document Attachment

Thank you,
Nick May

THE OFFICE OF MILFORD WATER AUTHORITY
NICK MAY
SUPERINTENDENT
WaterOfc@milfordpawater.com
151 Old Owego Turnpike
P. O. Box 459
Milford, PA 18337
(570) 296-6556

Exhibit A-24

COOK GEOLOGIC, L.L.C.
203 Scranton Pocono Hwy
Covington Twp, PA 18444
Tel: (570) 849-0077
E-mail: robert.cook@cookgeologic.com
Web Site: www.cookgeologic.com

July 24, 2023

National Land Developers, LLC
1010 Wilson Avenue
Glen Mills, PA 19342

ATTENTION: **JOSEPH MARLEY, PRESIDENT**

RE: **CONDITIONAL USE APPLICATION, MILFORD TOWNSHIP, PIKE COUNTY PROPERTY: 247 ROUTE 6 - TAX MAP PARCEL 096.00-01-16**

Dear Mr. Marley,

In our report dated May 3, 2023, we summarized available hydrogeologic information pertaining to the above referenced property (the "Site") and presented a conceptual model of the hydrogeologic setting. On July 11, 2023, we received documents from John A. VanLuvanee, Esq., Eastburn and Gray, PC he obtained in response to a Right-To-Know request. The purpose of this letter is to offer our comments and observations regarding the hydrogeology of the Site and its relationship to Milford Springs based on review of the documents received on July 11, 2023, in consideration of published, hydraulic, and hydrogeologic information for the watershed and our on-site observations.

Our main conclusions are:

- Groundwater from the Site discharges to Sawkill Creek.
- Sawkill Creek contributes little or no water to Milford Springs. And if it does contribute to the springs, it does so only under high-flow conditions.
- The Site is not likely to contribute water to Milford Springs. It has little to no potential to adversely affect the Milford water supply, particularly considering best management practices.

During our September 20, 2021 and June 7, 2023 visits to the Site we observed that groundwater discharges at the eastern side of the Site to an unnamed tributary to Sawkill Creek along Victory Drive. Groundwater from a western portion of the Site may discharge to the south and enter Sawkill Creek below Milford Springs. An inferred groundwater flow path shown in SWPP-Figure 6 of the Source Water Protection Plan for the Milford Springs (see attachment 1 (flow path is highlighted red)) extends eastward across the Site, passes beneath Sawkill Creek, and then extends toward Milford Springs. The flow path ignores obvious discharge points at the Site and is therefore incorrect.

Losing reaches of Sawkill Creek are also identified in SWPP-Figure 6. A losing stream has a stream stage that is higher than the adjacent aquifer's potentiometric head (i.e., hydraulic gradients must be from the stream to the adjacent aquifer). Based on the evidence presented in the Source Water Protection, the flow paths of water lost from the stream are not constrained in the Source Water Protection Plan by hydraulic head data from the surrounding alluvium and deltaic deposits. It is our opinion that the flow paths are not likely to extend to the Springs

It is clear from the information provided in reports on the sand and gravel quarry located on the southwest side of Schocopee Road (March, 1997 and July 31, 1997, Todd Giddings and Associates, Inc.) and total dissolved solids and turbidity breakthrough curves at the springs (June, 2006, Todd Giddings and Associates, Inc.) that there was a subsurface connection between the quarry and the Springs. The quarry was excavated to a depth of approximately 64 feet and received a large volume of uncontrolled stormwater runoff. We note that the data we presented in the bedrock topography map (a revised map is attached as Figure 1) do not preclude a conclusion that the quarry is located in the Vantine Creek basin rather than the Sawkill Creek basin. This conclusion would not be inconsistent with inferred groundwater flow paths shown in SWPP-Figure 6. It is common in geologic settings such as this that watershed boundaries and groundwater basin boundaries do not coincide.

A study of the effects of construction of interstate Route 84 on Millford Springs (October 1968, Gannett, Fleming, Corddry, and Carpenter, Inc.) concluded that fine material exposed in a major excavation in the Vantine Brook watershed was the source of turbidity at Milford Springs. The study noted that Vantine Brook was observed to be a losing stream north of Rte. 6. They noted that "[i]t appears that if infiltration is taking place north of Route 6, the underground flow may be following the route of what is apparently an old stream channel south of Route 6 which heads directly toward the East Reservoir.' Travel times for arrival of turbidity at the Milford water supply from the construction site were 4 to 12 hours after 2+ inches of rain. Travel times and estimated material properties were consistent with stream and/or subsurface transport of turbidity from the construction areas to the Springs. The authors reported that a dye test showed conclusively that Vantine Brook was contributing a significant quantity of flow to the Springs. (The report copy we received did not contain the dye test curves which were referenced as Appendices A and B.) It was noted that at times Vantine Brook was turbid, but the reservoir was not.

A stable isotope study of the Springs was completed in 1989 (Swistock and DeWalle, no date). Samples of stream water from Vantine Brook and Sawkill Creek, rainwater, and Spring water were analyzed for oxygen isotopic compositions. Delta^{18}O in the streams prior to a rainfall event were about -7‰. The Springs were isotopically lighter at -8.7‰. The δ^{18}O of rainfall was about -14‰. During a rainfall event of 1.2 inches over 11 hours, Sawkill Creek showed

less of a decrease than Vantine Brook in $\delta^{18}O$. The $\delta^{18}O$ in the Springs increased, indicating the influence of stream water. Mass balance was used to estimate the contribution of stream water to the Springs. The contribution of stream water at Spring 1 was 0-14% with a mean of 6% over the 6-day duration of the event. The contribution of stream water at Spring 2 was 0-8% with a mean of 2% over the 6-day duration of the event. The authors observed that $\delta^{18}O$ concentrations in the Springs were not affected by stream water under normal flow conditions but received a small amount (<15%) of stream water during high flows. This was consistent with the observation from the Gannett, Fleming, Corddry, and Carpenter, Inc. report (October, 1968) that sometimes when the Vantine Brook was turbid, the Springs were not. It is important to note that the Swistock and DeWalle study did not distinguish whether the stream water that arrived at the Springs was from Sawkill Creek, Vantine Brook, or both streams.

The Gannett, Fleming, Corddry, and Carpenter, Inc. (October 1968) study established that Vantine Brook contributed a significant amount of water to the Springs. A tracer test using potassium bromide salt was conducted by Todd Giddings and Associates, Inc. in October 1989 (October 29, 1987 and November 18, 1997) to assess whether the Sawkill Creek watershed was hydraulically connected to the Springs. Tracer was introduced directly to Sawkill Creek and at two abandoned channels of Sawkill Creek. The introduction locations were adjacent to the Site. Bromine concentrations at the Springs were presented on a plot of 'Relative Signal (Br-))' versus time. Bromine concentrations elevated above background concentrations at the Springs were interpreted as breakthrough curves and evidence that the Sawkill Creek surface waters were hydraulically connected with the Springs.

We examined the Bromine versus time data and concluded that it did not represent the presence of breakthrough curves. The data from Spring 1 is unconvincing as the data are normally distributed about the background level. Describing the high deviations from the background as peaks while ignoring the low deviations from background is not a valid interpretation. The report identified a single data point for Spring 2 as evidence of the arrival of the tracer. The report did not include any information regarding measurement uncertainties or attempts to estimate recovered tracer mass.

We conclude that there is presently no direct evidence that Sawkill Creek water impacts the Springs. The isotopic data shows a small impact from one or both streams (Sawkill Creek and Vantine Brook) only during high flow events. Gannett, Fleming, Corddry, and Carpenter, Inc. (October 1968) reported that a dye test showed that "Vantine Brook was contributing a significant quantity of the flow to the Milford supply." The small contribution of stream water indicated by the isotopic data would therefore constrain any contribution from Sawkill Creek to a very small amount, <u>if any</u>. The existing data indicate that the Vantine Brook watershed contributes a significant amount of water to the Springs. A portion of the Sawkill Creek watershed may also contribute subsurface flow to the Springs

based on the impact from the quarry. But we note that the quarry may in fact lie in the Vantine Brook basin. In either case, the Site is not likely to be in the contributing area of the Springs.

Please let us know if you have any questions.

Sincerely,
COOK GEOLOGIC, LLC

Robert Cook, Ph.D., P.G.
Geologist

and,

B.F. ENVIRONMENTAL CONSULTANTS, INC.

Brian Oram, P.G.
Geologist/Soil Scientist

Attachments: 1 SWPP- Figure 6 from Source water protection plan for the Milford Springs
Figure 1 – Bedrock elevation contour map (July 14, 2023)

References:

Gannett Fleming Corddry and Carpenter, Inc., October 1968, Effects of the construction of interstate route 84 on the sources of water supply of the Municipal Authority of the Borough of Milford, Pennsylvania.

Swistock, B.R. and DeWalle, D.R., no date, Stable isotope study of the sources of water for two kame terrace springs in Pennsylvania.

Todd Giddings and Associates, Inc., March 1997, An evaluation of the FAW Associates Gravel Pit, Milford Township, Pike County, Pennsylvania.

Todd Giddings and Associates, Inc., June 2006, Source water protection plan for the Milford Springs, Milford Township, Pike County, Pennsylvania, Municipal

Authority of The Borough of Milford, PA, 63 p.

Todd Giddings and Associates, Inc., October 29, 1987, Letter to M. Stover, Dept. of Env. Resources, reg. tracer test.

Todd Giddings and Associates, Inc., November 18, 1987, Letter to M. Stover, Dept. of Env. Resources, reg. Earth Disturbance Permit and tracer test

ATTACHMENT 1: Figure 6 from Todd Giddings and Associates, Inc., June 2006, Source water protection plan for the Milford Springs, Milford Township, Pike County, Pennsylvania, Municipal Authority of The Borough of Milford, PA, 63 p.

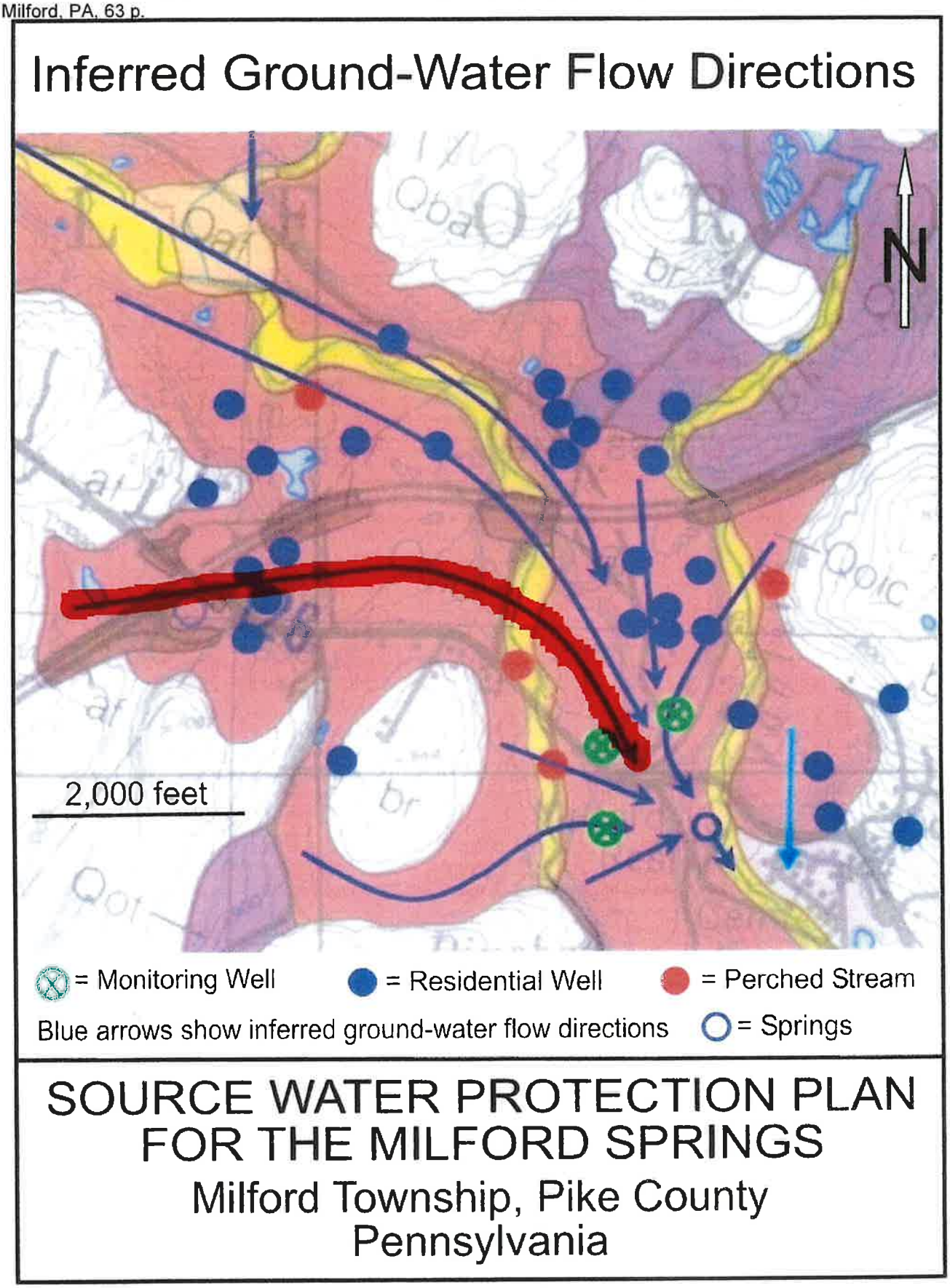
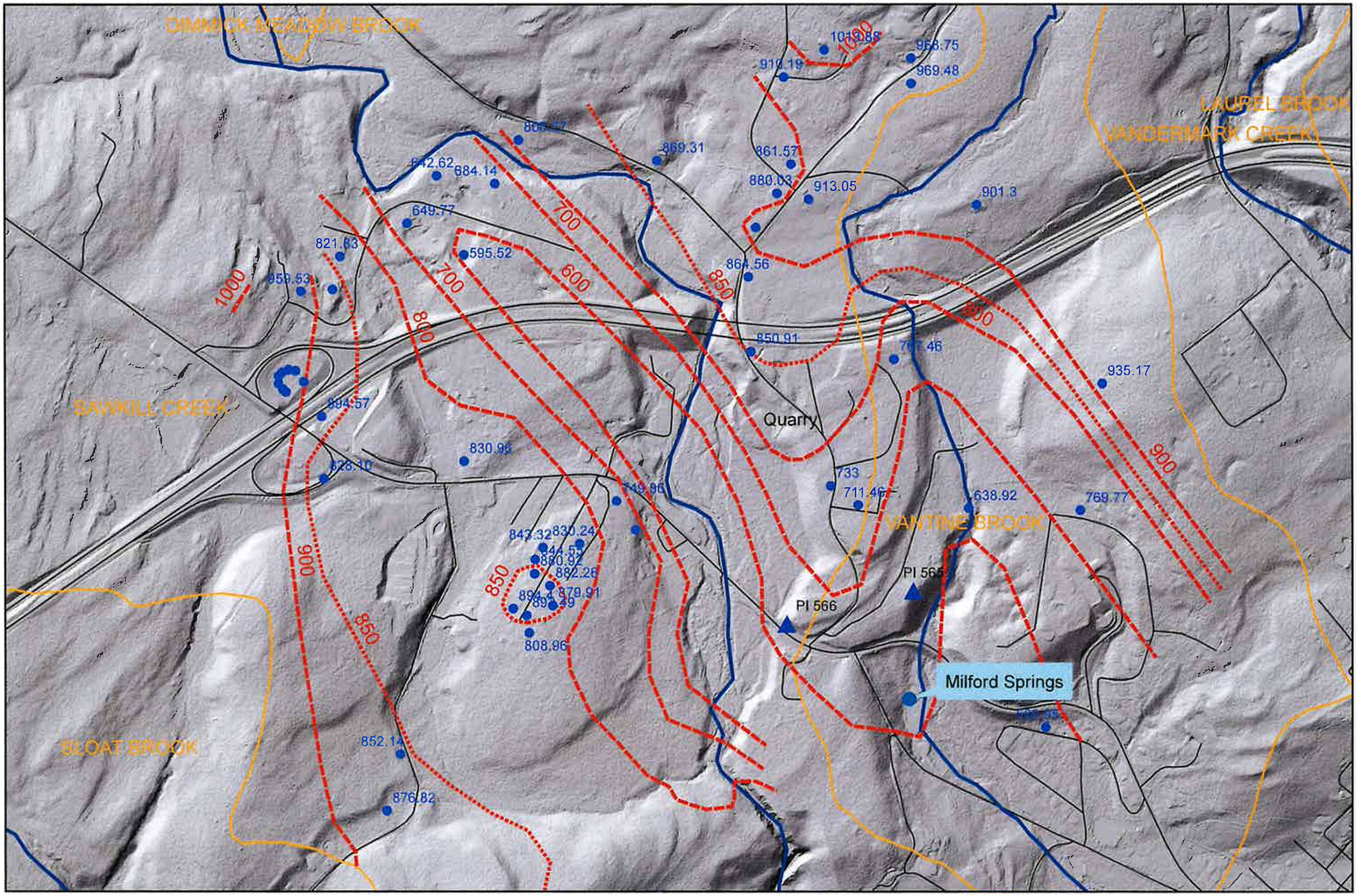


Figure 6. Inferred Ground-Water Flow Directions

Figure 1



PAGWIS data • **Bedrock elevation contours** Streams USGS Well Watershed

Interpretation of paleodrainage pattern based on depth to bedrock data.

1,000 500 0 1,000 Feet

N

July 14, 2023

COOK GEOLOGIC, LLC