ALPINE BOARD OF HEALTH
SPECIAL MEETING

Thursday August 23, 2018 - Alpine Borough Hall 100 Church Street 7:30 P.M.
(This meeting was taped in its entirety and transcribed[1]).

CALL TO ORDER/PUBLIC ANNOUCEMENT: Chairman Penn called the meeting to order at 7:41 p.m. and read the following Public Announcement in compliance with the N.J.S.A. 10:4-6 et seq.:
In accordance with the provisions of the New Jersey Open Public Meetings Law, the notice of this Special Meeting held Thursday August 23, 2018 for the purposes of a hearing pursuant to N.J.S.A. 58:11-31 and N.J.A.C. 7:9A-3.20 re: Septic system installation on property owned by Alpine Three LLC being 982 Closter Dock - Block 48 Lots 6.01, 6.02 and 6.03 has met the requirements of the law by being published in The Record, posted on the bulletin board of the lobby in the Borough Hall and on the Borough's website and a copy filed in the office of the Borough Clerk.

ROLL CALL:

Present: Dr. Penn, Dr. Laifer, Dr. Dalavagas, Ms. Snow, Mr. Inguaggiato, Sr.(Alt. I), Dr. Gasalberti (@ 7:43 P.M.)
Also present: David S. Lafferty, Esq of Huntington Bailey, LLP representing the Board,
Perry Frenzel, PE, Nancy Wehmann, Board Secretary

BUSINESS:

Hearing Requested by Alpine Three LLC – Septic System Review pursuant to N.J.S.A. 58:11-31 and N.J.A.C. 7:9A-3.20 982 Closter Dock - Block 48 Lots 6.01, 6.02 and 6.03

Guilet D. Hirsch, Esq. of Archer & Greiner, PC Countryside Plaza North, 361 Route 31, Building E, Suite 1301, Flemington, NJ 08822 appeared on behalf of Alpine Three, LLC along with son of of principal Edward Norian, James Norian and their professional geologist, Thomas Dwyer of 117 Head of River Road, Corbin City, NJ 08270. Renee Russo, CRR of RizmanRappaport Certified Court Reporters 66 W. Mt. Pleasant Avenue; Suite 200, Livingston, NJ 07039 was present on behalf of the applicant to create a transcript of these proceedings.

Attorney Hirsch explained the property is owned by Alpine III and has a long history. A 1995 Mount Laurel lawsuit against the Borough resulted in a 2000 Settlement Agreement to permit development of 7 townhouse units with a sewer line that would extend through the Borough to a neighboring town's sewage treatment plant. New litigation after the Planning Board failed to grant site plan approval resulted in a 2015 Amendment to the Settlement Agreement to permit 5 townhouses with an onsite septic system if feasible and all approvals could be obtained. The former Borough engineer [and Board of Health's authorized agent] approved the graywater system as installed but not the blackwater system. Mr. Vander Veer's letter of May 24, 2018 indicates the pit bail test as conducted is the appropriate test, complies with state code requirements and Mr. Dwyer's calculations showing acceptable permeability rates are mathematically correct. However, it also raises questions and recommended Planning Board review of pit bail test results. Attorney Hirsch states the Planning Board does not have jurisdiction over septics. This right and authority rests with the Board of Health which is the reason they requested this hearing.

At Attorney Hirsch's request following exhibits were marked by the Court reporter during the course of the hearing. She advised documents in A-1 should be on file in the Board office. Not having Board files in front of him Attorney Lafferty could only acknowledge her representation. She provided two binders to the Board.

A – 1 Alpine III Septic System Testing and Approval Record notebook binder containing 15 documents A through O:

A	12/15/15	Amendment to May 24, 2000 Agreement	
B	5/18/16	Azzolina & Feury (A&F) Letter	Accepts design for 75% of average daily wastewater for both fields, as per State regs.
C	6/10/16	Hubschman Engineering (HE) letter	Letter enclosing revised plans and Septic Design Report
D	6/20/16	A&F letter	Septic system design approved, permit for design feasibility water testing may be issued
E	9/28/16	HE letter	Grey water field test completed and acceptable, certified by HE
F	10/11/16	A&F letter	Concurs with 10/10/16 HE findings of acceptability of grey water field
G	5/18/17	HE letter	Blackwater field expanded 9.7' to west, new water test of field
H	8/3/17	HE letter	Concerning 18 days testing of expanded blackwater field, water level stabilized; 8/2 inspection – no seepage

I	8/22/17	A&F letter	Issues related to testing results from blackwater field
J	9/5/17	HE report	Responding to issues raised in 8/22/17 A&F letter
K	11/15/17	A&F letter	Permeability test requested to verify if rock is fractured or massive
L	11/15/17	Dwyer Geosciencies, Inc. (DG) letter	With pit bailing test protocol
M	3/20/18	DG letter	Additional details for pit bailing test
N	5/2/18	DG report	On results of pit bailing test; rock is fractured, not hydraulically restricted horizon
O	5/24/18	A&F letter	Pit bail conducted substantially in conformance with State code procedures; calculations and conclusion mathematically correct; findings questioned as listed as #4 and #6

A – 2 Series of 16 color photographs on 9 pages dated July 13, 15 & 16 and August 1, 6, 22, 2017. Pages are further labeled with letters (a) through (f) corresponding to the date taken.

A – 3 New Jersey Weather and Climate Network Data dated August 3, 2018

A – 4 E-mail correspondence between Thomas Dwyer and Ron Bannister, DEP Section Chief Groundwater and Stormwater Permitting Section, Bureau of Nonpoint Pollution Control dated April 5, 2018

Attorney Hirsch advised she would call James Norian as a fact witness and Thomas Dwyer as their geologist.

James Norian, 29 Overlook Road, Alpine, NJ 07620 was sworn and stated he is the son of Edward Norian, one of the principals of Alpine Three, LLC but not a member or partner himself. He stated he was on site during the septic system testing last summer so he could provide updates to his parents who could not walk the site themselves due to their physical ability. He is familiar with Mr. Vander Veer's 8/22/17 letter describing his observations of wetness seen at the base of the slope south of the test excavation. Attorney Hirsch presented a series of photos marked Exhibit A-2 for identification which Mr. Norian stated he took on dates as marked thereon. He described each photo taken to show the same area of Mr. Vander Veer's concern. Photos were taken on different dates between 7/13/2017 and 8/22/2017 at different angles and from varying distances and following a 7/7/2017 storm that knocked down the silt fence in that area. He recalled Mr. Vander Veer had asked them to repair the fence a few days later and a second silt fence is shown installed a few feet below the first beginning with the 8/1/2017 photos.

Mr. Inguaggiato asked Mr. Norian the last time he went up there to take a recent photo. Mr. Norian responded probably a month to a month and a half ago. He inspects the property almost every week to create a little slide show and to act as his father's eyes and ears to update him on the project. He acknowledged he has not been up there this week. Mr. Inguaggiato recommended he take a look at the property now.

Thomas Dwyer, PG of 117 Head of River Road, Corbin City, NJ 08270 was sworn and testified to his credentials. He has a Bachelors in Geology from Old Dominion University, Masters in Geology from Kent State University where he specialized in hydrogeology, and is licensed as a professional geologist in Pennsylvania, Delaware and Virginia. NJ does not have a licensing program for this field. He has 30 years of experience specializing in hydrogeological evaluations for water supply and wastewater disposal. His experience is with a wide range of hydraulic testing for wastewater disposal systems including pit bailing tests which are the appropriate method for certain sites. He visited the Alpine Three site on six occasions beginning January 16, 2018 and the last time being April 16, 2018. He has reviewed all the reports and letters contained in **Exhibit A-1.**

Based on his knowledge of the reports and letters contained in **Exhibit A-1**, the septic installation, and Mr. Norian's photos **[Exhibit A-2]** and accompanying testimony Attorney Hirsch asked Mr. Dwyer to address the concerns raised by Mr. Vander Veer in his letter of August 22, 2017 **[Exhibit A-1-Letter I]**

Concern with Seepage Mr. Dwyer believes what Mr. Vander Veer viewed and photographed were puddles leftover from rain events, not seepage and concluded there was no evidence of seepage resulting from the blackwater field test based on his review of photographs and precipitation records for the nearby Haworth rain gauge (about 3-4 miles from the site). He identified a printout from njweather.org, a NJ mesonet weather site, listing daily climate data for the time period of the blackwater field loading test from 6/4/2017 to 9/3/2017. He affirmed this data was not provided with his 5/2/2018 report. The loading test began on 6/19/2017. They don't have a photo from 6/27/2017, the date Mr. Vander Veer observed the seepage, but the weather data indicates there was 1.2 inches of rain during the preceding week so they know wet conditions were occurring at that time. The photos **[A-2(a)]** show the silt fence failed after a heavy rain on July 6 or 7, 2017. When he observed the fence in January it was evident from water channels paralleling the fence that water had funneled to a naturally weak point where the blowout occurred. Photos **[A-2(b&c)]** taken July 15 & 16, 2017 show the area of collapse where a lot of water ran through and some remaining wetness in the soil but no evidence of water continuing to flow through the area as would be expected if it were related to the test. He further opined photos Mr. Vander Veer

took on 7/19/2017 **[Exhibit A-1 Letter I]** show leftover stagnant puddles as denoted by the orange-reddish tint typically seen when bacteria in the soil metabolize iron in standing water. Later photos taken 8/1/2017 **[A-2(d,e,f)]** closer to the end of the test continue to show no evidence of puddles or running water despite the ongoing loading since 6/19/2017 through 8/18/2018 when the test ended and 8/23/2018 when they finally turned off the water to the basin. He further noted the ground surface in photos may look a little damp because of the silt and clay deposits that remained after the blowout, periodic rain events during that time and the area lying beneath the forest canopy with little direct sunlight. Mr. Dwyer stated the photos reflect a long history of a very intensive test with no indication of seepage or puddling caused by that test. The photographs just show a couple of small stagnant puddles left over from rain events.

Loading test Attorney Hirsch asked Mr. Dwyer to explain the blackwater loading test. Mr. Dwyer responded the blackwater field test actually loaded about 120% (or 2,500 gallons per day) of the total design flow (1,900 gallons per day). It was a more intensive, full-scale long-term loading test than what he typically sees; he's done them on larger projects.

Concern with horizontal movement of water due to a lack of fracturing below the field. Mr. Dwyer visually inspected the exposed bedrock in the test basin and could see the vertical joint systems (small fractures) in the diabase bedrock typical of this region. The loading test recharged 140,000 gallons of water and there would have been massive seepage if it did not flow through the vertical fracture system because the shallow overburdened soils in this area have extremely low permeability and they wouldn't be able to carry that much water. The photos show no evidence of any seepage and they couldn't have completed the test without vertical movement.

Seasonal high ground water. Mr. Dwyer had no concerns that the testing was not done during the period of seasonal high ground water as there is no requirement to do so. They are required to make an estimate or observation of the seasonal high-water level which can be done by direct observation or noting soil coloration or mottling which is the oxidation reduction that occurs in soil from the water table alternating between saturated and unsaturated conditions. Observations were made on a number of dates from January to March 2017 and his own observations were from March to April 2018. Test results are then superimposed on the seasonal high-water level to determine separation distances or the zone of unsaturated flow below the disposal field and the inverts. This is typical and it did not present a concern to him.

Lack of room to expand the blackwater field if needed in future. Mr. Dwyer stated there is no requirement for an expansion or reserve area. It is generally considered that with the type of testing required by the State and the inherent safety factors that are built into the design of these systems that a reserve area is not required. Alpine Borough has a very intensive requirement requiring both blackwater and greywater fields. Two separate fields serve the system each designed for 75% of the design flow essentially providing an additional 50% capacity or 150% of total capacity. Each field was tested at about 120% of the design flow. It is to Alpine's credit that their intensive requirements ensure adequate capacity.

Request for additional testing to determine permeability / pit bailing test Mr. Dwyer noted the administrative agent has the option to request additional testing when they have uncertainties and are dealing with a rock substratum they wish to determine is fractured or massive or hydraulically restrictive. N.J.A.C. 7:9A regulations allow for either a basin flooding test or a pit bailing test. Although Mr. Vander Veer had suggested the basin flooding test, the regulations say the pit bailing test is more appropriate if groundwater is in the area and exposed in the pit. He explained this in his 3/13/2018 letter to Mr. Vander Veer **[Exhibit A-1 Letter L]**, and provided further clarifications along with the testing protocol in his letter dated 3/20/2018 **[Exhibit A-1 Letter M]** following which they coordinated by e-mail to establish the feasible testing dates delayed due to weather as they needed a 3-day period without snow melt or rain events. Meanwhile they installed additional monitoring standpipes to monitor levels across the basin to address Mr. Vander Veer's concern that 3-inch stone covered half the basin floor with the rest exposed to bedrock. They established the measuring place to determine initial static water level and set up digital monitoring devices or dataloggers to record the water levels at one-minute intervals to create a very detailed record.

Performance of the Pit Bail Test On 4/11/2018 they initiated the pump out portion of the pit bail test which gets its name as the test usually involves bailing out a smaller basin with a bucket loader. But for this scale they installed a submersible pump and pumped it out to the storm drain at 100 gallons per minute for two hours and 20 minutes being over 13,800 gallons, to draw the water level down a foot. The procedure from there to measure the recovery of the water level with the dataloggers as well as hand measurements for a period of 25 hours. The results of that recovery monitoring were analyzed using the procedures identified in the state regulation N.J.A.C. 7:9A-6.5. They broke up the calculations into two-hour intervals so they would have enough change in water level to make consistent calculations. With each interval the procedure is to calculate a hydraulic conductivity value for the rock substratum. Hydraulic conductivity is a measure of permeability and is basically the volume of water

that flows through a unit of section of an aquifer under a unit hydraulic gradient. The procedure requires them to look at the series of calculations to determine if there is any trend such as whether the hydraulic conductivity is increasing or decreasing. They used a linear trend analysis and a statistical procedure called analysis of variance to determine that there was no significant increase or decrease. This procedure is consistent with the regulations and the statistical trend analysis goes beyond the regulations where the State merely states you must demonstrate that you're achieving consistent results. He feels that's the best way to make that sort of demonstration mathematically. Because they had consistent results they can characterize the hydraulic conductivity using the median value. Median value is 2.7 inches per hour. The value for the last test interval was 2.3 inches per hour. Values were consistent and did not vary greatly. The test concluded after 25 hours of monitoring and demonstrated consistent results and calculations.

The NJDEP standard for demonstrating that rock stratum is not massive or hydraulically restrictive is to calculate a hydraulic conductivity of 0.2 inches per hour or greater. Their calculations exceeded by an order of magnitude of ten times of what DEP requires for permeability for hydraulic conductivity; better than a passing rate. Based on that they conclude the bedrock substratum is fractured, not massive or hydraulically restricted and, according to the regulations, is an acceptable zone of wastewater disposal. **[Exhibit A-1 Letter N]**

Mr. Vander Veer's 5/24/2018 letter to Mr. Dwyer. [Exhibit A-1 Letter O]. This letter reviewed Mr. Dwyer's test results. Attorney Hirsch elicited from Mr. Dwyer Mr. Vander Veer did not question if the pit bail test was the correct test to be used for permeability or if the test was properly conducted in accordance with the DEP code and agreed the calculations were mathematically correct. Mr. Dwyer addressed the comments in this letter:

Seasonal high water table They measured the highest water level in the basin on 3/27/2018, two to three weeks ahead of running the pit bailing test. Mr. Vander Veer questioned their use of that water level in the calculations. That initial static water level value is the denominator in the equation used to calculate hydraulic conductivity. To be conservative they used the highest water value they saw which resulted in a lower hydraulic conductivity than if they had used a more current value which was probably a foot or so lower. It was just a way of keeping the calculation a little conservative.

The bottom of the pit was not completely devoid of material. About 50% of the bed was large crushed stone in it and Mr. Vander Veer questioned if they needed to adjust for that. The gravel material in the pit is probably three times more permeable than the surrounding bedrock and therefore is not an impediment to flow into the pit. It has an incredibly high permeability. He checked with NJDEP's Groundwater Discharges Section of the Bureau of Nonpoint Pollution Control that oversee the N.J.A.C. 7:9A regulations and they agreed he did not need an adjustment factor for the gravel.

The elevation range for the bottom of the excavation of the test pit was 3.31 feet from high to low points. The regulations state that the bottom of the pit should be relatively flat and level. Mr. Vander Veer questioned whether they met that requirement. There are actually sixteen spot elevations they had available for the bottom of the pit and when they looked at how much of the pit was actually flooded during the pit bailing test the high point at the southern corner was never submerged and thus not included in the calculations. Therefore, the actual range in elevations within the area they were testing was 2.15 feet and not 3.31 feet. This variation occurred over about 60 feet; a 3.6% variation they don't consider to be significant and which he also verified with NJDEP's Groundwater Discharges Section of the Bureau of Nonpoint Pollution Control as noted in his e-mail exchange with Ron Bannister of that office dated 4/5/2018 and marked **[Exhibit 4].** DEP uses the term "relatively" because it is not safe to go into the pit to measure exact levels.

Although the report demonstrates that the rock is fractured there is no assurance that the fractures will remain open. Mr. Dwyer stated in 30 years doing this work he's never seen a situation where fractures didn't remain open. Geologically the likelihood of massive earth movement or something closing the fractures is remote. As to clogging, fields are designed to accommodate the clogging layer that occurs in every wastewater system to some extent. This clogging layer occurs within the upper one inch of sand media underlying the disposal field where the beneficial bacterial activity occurs to maintain equilibrium of the system. A thick layer of engineered media overlies the bedrock surface and protects it from clogging; he's never seen an instance where the underlying rock clogged up.

Open to the Board

Mr. Inguaggiato asked Mr. Dwyer if he knew of any other town using this blackwater system. Mr. Dwyer stated this was the first time he had seen this unique requirement in action. Someone told him about another town that requires separate gray and blackwater fields but he could not recall the name.

Mr. Inguaggiato asked Mr. Dwyer about algae growth opining the stagnant water and algae growth currently observed in the blackwater pit will present a filtration problem. Mr. Dwyer responded that fields are not intended to be open and exposed to the sunlight. He further stated there can be variations in where the fracturing occurs in the bedrock and he would not be surprised to see an area with a puddle. Mr. Inguaggiato advised the pit looks more like a pond than a puddle and expressed concern that the water has not gone and what would happen when all five units started using the system at the same time. Mr. Dwyer stated he has to rely on the loading test results where 140,000 gallons or more was successfully discharged in a very large-scale test and the pit bail test demonstrated system is fractured and meets the state requirement. Ms. Snow asked for more clarification as to why the water level wasn't going down. Mr. Dwyer advised he would have to reinspect the pit and the extent of what is being described but noted the pit has been open and exposed for a long time where material may have washed into it and it only takes a very thin layer of algae growth, which can grow very quickly, to bring permeability essentially down to zero. The rock surface will need to be cleaned off before the fill is put in.

Dr. Laifer asked if there was another test that could conclusively determine that no seepage from the pit is occurring such as a dye test. Mr. Dwyer conceded it's possible but noted dye tests can be difficult in terms of whether the dye actually makes it to its destination or gets absorbed elsewhere. He's seen mixed results. You could also try to establish basic water quality parameters to differentiate the water from rainfall by analyzing ionic composition of the source water and comparing it to rain but that still be inconclusive. Mr. Dwyer cited they have to look at that question in the context of the entire testing period where you see a small puddled area after a rainfall but nothing else throughout the weeks of testing; it just doesn't tell him it's from the test water.

Attorney Lafferty asked for and received Mr. Dwyer's confirmation that he did not actually observe the site as shown in the 2017 photos **[Exhibit A-1-Letter I]** and **[A-2].** He did not join the project until afterwards.

Open to the Public

Richard Incontro, 36 Schoolhouse Lane, was sworn. Mr. Incontro stated Attorney Hirsch's description of the property is prejudiced as she did not mention the percolating spring on the property that feeds the ditch that flows parallel to Church Street almost to the corner of Hillside Avenue and Church Street where it diverts underneath Church Street and becomes the Cresskill Brook. The Cresskill Brook feeds into two trout ponds that contain brook trout, New Jersey's state fish which depend on the spring water. He has deeds and documentation demonstrating Thomas R. DuBois owned about 45 acres bounded by Closter Dock Road and Church Street all the way to Pike Street in 1879 which he later divided and deeded along with the rights of access via Schoolhouse Lane and to the spring to his heirs and his heir's heirs in perpetuity. Alpine Three purchased the subject property in 1986 from Mrs. Hille for $550,000 and that deed clearly identifies the spring. The Borough of Alpine subsequently vacated their rights and re-distributed the land resulting in a lawsuit by Mr. McCaffrey and Mr. Shaw where the Judge determined although they could vacate their rights they could not address anyone else's deeded property rights. Later Alpine Three misrepresented the property in their applications to NJDEP for their LOI.

Mrs. Hirsch objected and asked the Board to direct Mr. Incontro to explain how this relates to the matter pending before this Board which is the sufficiency of the pit bailing test that was done with respect to DEP septic code. Attorney Lafferty asked Mr. Incontro to preview for the Board how this relates to the septic.

Mr. Incontro continued that in accordance with the January 13, 2014 Bergen County Superior Court order concerning Alpine Three's appeal against the Planning Board, Alpine Three hired a professional to identify whether the spring was there as Alpine Three had always identified it as an abandoned well and isolated wetlands. Mr. Incontro read from what he stated was this report, termed The Cosgrove Report: "*On site water feature. Based on my site visit and review of documents and testimony the onsite water feature meets the definition of a spring which s regulated as a state open water under the Freshwater Wetlands Protection Act. Since the feature was mislabeled as an abandoned well on the wetlands delineation plan submitted to and approved by the NJ DEP the wetlands delineation plan should be revised to indicate the presence of a spring and resubmitted to NJ DEP for a revised Letter of Interpretation. NJ DEP should be made aware of the presence of the spring so it can determine what if any permitting requirements must be satisfied to disturb it.*"

Attorney Hirsch again objected stating there was no showing of a connection between Mr. Incontro's statements and what's before the Board of Health. While the Planning Board will have the right to dispute whether DEP correctly delineated the wetlands on site pursuant to the wetlands LOI that was issued it is not relevant to the pit bail tests results and whether they meet DEP requirements for the blackwater field which is not anywhere near the spring.

Attorney Lafferty advised Mr. Incontro if he has materials such as The Cosgrove Report that he wants the Board to consider he must provide it to them. Mr. Incontro acknowledged this particular Board may not have it as this

was a document that resulted from the Planning Board appeal. His point is that there is documentation that Alpine Three changed the USGS map that effects the three hundred foot riparian way for the spring.

Attorney Hirsch interjected Mr. Incontro has no personal knowledge or professional credentials to make such an absurd statement. Mr. Incontro countered it's in the professional report. Attorney Hirsch again objected to any of this going into the record stating his comments are only relevant to their Planning Board application hearing to likely start next month at which time, Mr. Incontro can debate with that Board the question of the Flood Hazard Area applicability determination her client received for the property which indicated there is not a three hundred foot riparian zone on the property, the Freshwater Wetlands Letter of Interpretation and The Cosgrove Report. What he is not telling the Board is that The Cosgrove Report preceded a court judgment that was issued by a Bergen County Judge that is the final action and it did not involve the septic system or the testing for the septic system.

Attorney Lafferty recommended the Board overrule the objection and allow Mr. Incontro to continue surmising his underlying question is probably whether Mr. Dwyer agrees there is a spring on the property and did he consider that in his opinion that he just rendered?

Mr. Incontro asked Mr. Dwyer if he realized there was a percolating spring and wetlands on the property? Mr. Dwyer responded that he did see somebody had constructed a well-type structure on that feature that has been described as a well along with a pipe that discharges further down the slope. Mr. Incontro asked if he had read the original deed between Mrs. Hille and Alpine Three? Mr. Dwyer responded he did not as it was not within his scope of work. Attorney Hirsch asked Mr. Dwyer if the well/spring was anywhere near the area that was tested with the pit bail test for the black water field. Mr. Dwyer responded no, in fact, he observed it during the testing period just out of curiosity to see if there was any connection between them and he didn't see any change in the flow of that feature during or after the testing period.

Mr. Incontro asked the former Borough engineer be at future meetings. He believes Alpine Three will have to resubmit for a NJ DEP LOI based on the wetlands and the spring which will have an impact on the property.

After a lengthy discussion on proper procedure, Mr. Incontro provided his stack of documents to the Board secretary. Attorney Hirsch clarified her objection by stating before any of his documents are entered into the record she is entitled to review and opportunity for cross examination and objection. Attorney Lafferty noted some of it may not be relevant or accepted by the Board as an exhibit but as it's just being provided now they can not make an immediate determination. He surmises the hearing may have to be continued to allow the Board to review and determine what is appropriate.

John Patrick McCaffrey, 203 Hickory Lane, Closter, NJ stated he owns the property immediately to the east adjoining the Alpine Three property. He was sworn and stated that there has been a great tide of deception by the Alpine Three before the various Boards in Alpine from the beginnings when Alpine Three clearly bought property with knowledge of the DuBois Spring. He has a 1892 map which delineates the spring on this property and is associated with all of the deeds along Closter Dock Road. Some of those deedholders are in the audience and he owns three parcels himself which grants them rights to the spring and that the road leading up to it shall remain open and unobstructed in perpetuity. Although the Borough of Alpine abandoned their rights that did not affect the rights of other deedholders and the Borough inadvertently regained their rights when they acquired the property at the corner of Church Street and Closter Dock Road. The Cosgrove Reports makes clear it is a spring with a consistent velocity of water flow each day and a water temperature of 52 degrees earth temperature. He's lived here for 42 years and the spring never dried up, even in droughts as evidenced by vegetation such as fresh watercress. It was never abandoned by any means. Alpine Three called it an abandoned well because it fit their needs which wasn't the truth and the Planning Board and Board of Health made certain decisions based on that information given to them. Mr. Cosgrove came in as a professional and verified it was in fact a spring. Mr. McCaffrey stated he has all the deeds. He offered if they had called it a spring from the beginning NJDEP would have identified it as birth waters to the freshwater stream and advised they could not put a septic system within x number of feet of it. Instead it was all disguised and washed over. The spring is flowing right now.

Mr. McCaffrey continued that would have had a bearing on where the blackwater system is. His property is right next door and he observed today the water in the basin is at virtually the same level as the finished floor of his basement. His house is ten feet off the property line and the blackwater pit is ten feet off their property line thus he has a concern with horizontal water movement infiltrating the area of his foundation. He's observed that the water level in that basin has not changed in over a month and a half and thought if it was percolating it would have gone down three to five feet by now. He asked Mr. Dwyer where the laterals will go if the water stays at that level. Mr. Dwyer noted state code says four feet but Alpine's code says the laterals have to be six feet above the level of

infiltration. Mr. McCaffrey asked what was to stop the water from going horizontally over to his property? And what are the setbacks for a field, which he believes is 20 – 25 feet. He stated the edge of the blackwater pit is only twenty feet from his foundation and per Mr. Dwyer it's going to be six feet higher from where it is now which is not acceptable. If the water goes higher there will be horizontal movement. He has a big investment and he's concerned.

Mr. McCaffrey further recounted his nephew met up downstream with people from Trout Unlimited and NJ DEP Fish and Wildlife who were doing electronic shocking of the water to bring the brook trout up to the surface so they could collect them, perform DNA testing, tag, weigh, etc. and they explained this is one of the few last brook trout streams in northern Bergen County where they survive and the only reason why they're surviving is because there is clean fresh water coming into this stream bed. His nephew told them his uncle and his father have the rights to that spring where this stream is born and they said that's the answer. He's concerned with putting a facility like this on top of that spring. The spring has to be protected.

Attorney Hirsch again objected that the comments were not relevant to the matter before the Board. If Mr. McCaffrey would like to take a look at the Freshwater Wetlands Letter of Interpretation that was issued by DEP for the site, or the most recent DEP review of the site in a Flood Hazard Area applicability determination he will see that DEP has not identified this spring/well as a regulated feature under state law. She understands there are other issues involved here but none of these issues relate to the appropriateness of the pit bail test that has been done for the blackwater field. She stated the spring is not in the area where the blackwater field is and it doesn't affect the testing. There is no discussion of the spring/well in any of Mr. Vander Veer's letters because it doesn't relate to the septic system that is proposed here. Mr. McCaffrey asked the date on the DEP letters she referenced but she did not know offhand.

Mr. McCaffrey advised the Board he petitioned the Mayor and Council at their last meeting to fund hiring a hydrogeologist to take a close look at the property and their findings. He asked the Board to table discussion and their vote until they get a second expert opinion. He further invited Board members to his property to see what he is describing.

Attorney Lafferty stated Mr. Vander Veer's letter of May 24, 2018 recommends this matter be reviewed by an expert in the field of hydrogeology. Mr. Frenzel replied he can reach out to appropriate forms. Dr. Gasalberti agreed in fairness to all parties and in light of the potential impact on the environment and population they should have an outside independent geologist review and report back to the Board. Dr. Dalavagas questioned the basis of Attorney Hirsch's objections that the presence of a freshwater spring near a septic system would be irrelevant. Attorney Hirsch explained it is not in the area of the septic system and is not related to the design, testing and suitability of the field their discussing.

Ted Noback, 57 Schoolhouse Lane, was sworn and stated he has lived and walked up and down that road for fifty years to proclaim it's a spring and the fact that it hasn't been considered carefully is terrible and just wrong. The suggestion that the town hire their own experts and get their own opinion should definitely be taken up. He also thought a dye test should definitely be done if there's any question of leakage to find out what's going on there.

Mr. Frenzel asked if there is the possibility that there could be a hydrologic connection between the two? Mr. Dwyer stated he did not see any evidence of that. When the pit was lowered there was no evidence of any seepage coming from that direction from the spring and they saw no increase or decrease in the flow from the spring so he does not see any direct connection there. Mr. Dwyer did not know the distance between the blackwater field and the spring but estimated it at 80 – 100 feet. Mr. Dwyer acknowledged he had not evaluated the feature in terms of whether or not it was a spring or how the well type structure was constructed. Obviously, there was some fracturing in the rock that was being taken advantage of with a well type structure. Dr. Penn noted Mr. Dwyer didn't include the spring in his report. Mr. Dwyer responded it was not within his scope of work to evaluate that feature and determine exactly the nature of it but he did observe it there. Ms. Snow asked for clarification of Mr. Dwyer's statement that he monitored the flow coming from the spring during his test. Mr. Dwyer acknowledged he did not monitor the feature in terms of quantitative monitoring but just observed it out of curiosity. He observed a well like feature with an overflow built into it that was piped/discharged down the slope. He just looked at the flow through the discharge pipe and didn't see any change throughout the testing period; it seemed very consistent. But he did not try to measure it. Mr. Incontro recalled the Planning Board had Mr. Hubschman and Mr. Vander Veer do a test with a weir calculator to measure the water off the spring and that the Cosgrove Report was paid for by Alpine Three. Attorney Hirsch objected to his characterizations of the record before the Planning Board which may or may not be accurate.

Attorney Lafferty responded this is public comment and the Board can determine the weight it deserves. Although clear Mr. Incontro is not an expert he is offering testimony he deems somewhat relevant regarding what impact if any this spring or abandoned well might have on the functioning of the system and so he won't deem it irrelevant.

Dr. Laifer asked if Attorney Hirsch is asking that the Board rule strictly on the pit bail test and nothing else or, since the Board is being asked to approve the septic system, shouldn't they consider the suitability of the system as a whole especially for somebody like Mr. McCaffrey who has a property so close that could be fouled by bacteria or whatever effluent that comes off of this system. Would it be relevant and within the purview of the Board to consider Mr. McCaffrey's testimony on that basis?

The court reporter requested a break at this time and the Board took a brief recess from 9:52 pm to 10:52 pm.

Dr. Penn noted there has been more than one person who expressed concerns relative to a spring and also recommended retaining an expert. Noting the time, he further recommended they limit the hearing to only another fifteen minutes for this evening.

Attorney Hirsch agreed by carrying they will have more time to review her exhibits. To answer Dr. Laifer she summarized that Mr. Vander Veer had approved the graywater field and the overall design. The only thing that has not been approved is the blackwater field where the design and proposed construction was not an issue but only whether the pit bailing test proved there is adequate permeability. That is her understanding of the record. She understands they wish to hire their own hydrogeologist but asked the Board to focus on what is before them and range into an evaluation of the appropriateness of the property, or whether the spring interferes with development and other matters that will be for the Planning Board to decide. She asked they obtain their expert's report as soon as possible so that within a period two months from tonight that we all be in a position to review that report and that report be in our hands a minimum of ten days prior to the hearing so that Mr. Dwyer has an opportunity to review it. Mr. Lafferty did not believe that was an unreasonable request and he assumes there is no objection to extending the Board's decision-making time line. He recommended they wait for the expert report to determine availability for an appropriate meeting date. Attorney Hirsch responded yes, with that understanding, they will be flexible.

Upon a motion by Dr. Gasalberti, seconded by Ms. Snow, and approved by all to retain a hydrogeologist subject to approval of funding to review this matter.

MOTION CARRIED

ADJOURNMENT: at 10:10 PM upon motion by Ms. Snow, seconded by Dr. Dalavagas and approved by all.

Respectfully submitted,

Nancy Wehmann, Board Secretary