State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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New Jersey Department of Environmental Protection
NJ State Well Drillers and Pump Installers Examining and Advisory Board
Meeting Minutes for July 21, 2016

Approved by the Board on September 15, 2016

Board Members Present: Art Becker (Chairman) Gary Poppe (Vice-Chairman), Gordon Craig, Joe Yost, Joe Pepe, Carol Graff, Richard Dalton and Steve Doughty

Board Members Absent: None

NJDEP Bureau of Water Allocation & Well Permitting Staff Present: Terry Pilawski, Pat Bono, Steve Reya, Julia Altieri, Michael Schumacher, Steve Kumpf and Melia Stoop

Board Legal Representative: Jill Denyes, Deputy Attorney General (DAG), NJ Division of Law

New Jersey Geologic & Water Survey (NJGWS) Staff Present: Jeffrey L. Hoffman, NJ State Geologist

Members of the Public Present: Jonas Endreson and Bruce Burgess III from Jonas Endreson Drilling Contractors; Denis Crayon, New Jersey Ground Water Association (NJGWA) President and Summit Drilling representative (arrived at 10:02 am)

1. **Call to Order-**
   The meeting was called to order by Chairman Art Becker at 9:34 am with a quorum present.

2. **Review and Certification of the Minutes for the May 26, 2016 Meeting –**
   A motion to approve the minutes without change was made by G. Poppe, seconded by J. Yost and approved unanimously.

3. **Complaint Letter Regarding Geotechnical Soil Borings** –
Board members continued the review and discussion of a complaint received from Rod Simon, PE, from Simon Engineering LLC regarding soil borings drilled for geotechnical engineering purposes. In his letter, dated March 7, 2016, Mr. Simon states that multiple well drilling companies are "performing soil borings incorrectly on thousands of projects along the Jersey Shore. They are using continuous flight augers below the water table (typically up to 20 ft.)." Further, he states that it is not possible to retrieve soil samples much below the water table using continuous flight augers (CFAs) and in fact the practice is specifically prohibited by ASTM D1586. Mr. Simon contends that all borings conducted for the purpose of obtaining data to determine foundation type, for the design of piles, for the lateral load analysis required by the building code and many other things important to construction projects should not be performed using CFAs. Mr. Simon asserts that borings not performed in accordance with ASTM D1586 ("Standard Penetration Test and Split Barrel Sampling of Soil") yield data that is worthless for geotechnical engineering purposes. He further adds that in some instances use of the incorrect drilling method necessitates re-drilling borings at the same site by the appropriate method at significant cost to the property owner who then must pay to have the work redone.

As the Board discussed at the May 26, 2016 meeting, nothing in Mr. Simon's complaint constitutes a violation of the Well Construction and Maintenance; Sealing of Abandoned Wells Rules, N.J.A.C. 7:9D. Following the May meeting, Board members initially drafted a response letter to Mr. Simon explaining it does not. Additional discussion ensued as to whether it is appropriate for the Board to issue an advisory letter to local construction code officials regarding appropriate standards to follow when conducting soil borings. Board members noted, however, that the well regulations allow for a variety of methods for collecting soil borings in a manner protective of the ground water resources. It is not the jurisdiction of the Board to specify which specific method must be used for a particular application. These are often dictated in accordance with other regulations or codes. Members also noted that when a particular method of boring collection (such as an ASTM method) is needed for a specific application, it must be made known in advance to the driller, preferably identified as a contractual obligation.

Jonas Endreson and Bruce Burgess II from Jonas Endreson Well Drilling, who were present at the meeting to voice their concerns over this matter, noted that they utilize CFAs to perform borings and classify the soils in accordance with the Unified Soil Classification and follow the requirements of the International Residential Code – New Jersey Edition, which allows for this practice for residential construction. Mr. Endreson said performing hollow stem auger drilling to conduct split spoon sampling of soils and obtain blow counts for geotechnical engineering is much more expensive and adds undue cost to clients, in this case, homeowners looking to rebuild after Superstorm Sandy. He also stated that other than the written complaint submitted to the Board by Mr. Simon, they have not had any of their work rejected by any engineer or architect. Mr. Endreson agreed that if a particular method was need by his client, it needs to be made in advance. Board members will consider Mr. Endreson's input and potentially alter the current draft response to Mr. Simon prior to the next meeting scheduled for September 15, 2016.

4. **Review and Certification of Exam Scores from the June 8, 2016 Master Well Driller, Journeyman, Journeyman B, Monitoring Well Driller, Soil Borer and Pump Installers Exams –**

Master Well Driller– A motion to approve the two (2) listed exam scores was made by G. Craig, seconded by S. Doughty and approved unanimously. Both candidates passed.
Journeyman- A motion to approve all eight (8) listed exam candidate scores was made by J. Yost, seconded by G. Craig and approved unanimously. One candidate passed.

Monitoring– A motion to approve all ten (10) listed exam scores was made by G. Poppe, seconded by R. Dalton and approved unanimously. Two candidates passed.
Soil Borer– A motion to approve the two (2) listed exam scores was made by G. Poppe, seconded by C. Graff and approved unanimously. One candidate passed.
Pump Installer – A motion to approve all three of the listed exam candidate scores was made by Joe Pepe, seconded by J. Yost and approved unanimously. One candidate passed.

It was noted that no one sat for the Journeyman B exam.

5. **2016 Exam and Board meeting Schedule Reminder-**
The remaining 2016 exam dates for well drillers and pump installers are October 5 and December 7. A Board conference call to approve the October exam results is scheduled for October 27th at 10:00 am. Remaining Board meetings will be held on September 15 and November 22.

6. **Well Permitting Staffing Update-**
Terry Pilawski noted that the Bureau has hired two (2) additional part-time employees to work within the Well Permitting Program. Steve Kumpf, who was present at the meeting, was introduced to Board members. The second, Steve Kelly, will be starting soon. Both gentlemen will assist the program in conducting well record and well decommissioning report reviews along with conducting well searches and performing other tasks.

7. **GEA GA-XTRA Geothermal Grout Testing and Approval-**
S. Reya summarized the GA-Xtra Geothermal well grout product review process that began in March 2013. The independent lab testing results for permeability of the "field mixture" of the samples obtained at a site in Sussex County on April 13, 2016 were submitted to the Department for review. R. Dalton evaluated the results and concluded that the reported value was acceptable (less than the maximum permeability of 1.10-7 cm/sec specified in the well rules). R. Dalton noted the lab results exhibited a permeability that was actually slightly lower than that measured for the original lab mixed grout mixture. S. Reya indicated that the manufacturer had, therefore, satisfied all established criteria for approving a cement-based geothermal grout.

A motion to approve GEA GA-XTRA Geothermal Grout was made by Steve Doughty, seconded by Gordon Craig, and approved unanimously.

Additionally, it was mentioned that this is the first alternative grout material to the only "cementitious thermally enhanced grout" (Mix 111) specified in the well rules. It may be used in the same environments as cementitious thermally enhanced grout (such as closed loop geothermal wells installed in bedrock). The Bureau will send an approval letter to the manufacturer.

8. **Water Allocation & Well Permitting Enforcement and Field Work Activities –**
J. Altieri from the Bureau of Water Allocation and Well Permitting presented a summary of Well Permitting Program's enforcement and field activities over the past seven (7) weeks.

A) **Unsettled Violations-**

Well Permitting staff continue to investigate and work toward resolving an incident where a Pennsylvania based well drilling company abandoned the drilling a new domestic well in Hope Twp., Warren County. The driller did not have a New Jersey licensed well driller onsite, a valid NJDEP well permit and used PVC casing in violation of the NJ well construction regulations for rock wells. The violation was discovered when the Department was contacted by the Warren County Health Department about a separate, permitting issue for the property (the well was located less than the minimum distance requirements to the existing septic system). A letter was sent to the property owner by the Department advising them to properly decommission the abandoned well which consists of a partially completed 200' foot pilot hole with PVC casing in the borehole. The property owner is currently working to have a licensed driller to help them determine if the well can be finished in accordance with NJ well rule or if the well needs to be decommissioned. Well Permitting staff will coordinate with the driller to witness the reconstruction or decommissioning of this well. The work is expected to be completed within the next few weeks. Penalty notices for violations of the well drilling regulation will be sent to the unlicensed well driller.

B) Outstanding Well Records and Decommissioning Reports-

Three (3) additional well drilling companies were contacted in the month of June regarding their failure to submit outstanding well records owed to the Bureau from the years 2000 to 2015. Totals of paper decommissioning reports received and processed by the Bureau continues to decline as more companies realize the benefits and convenience of electronic submittals of well decommissioning and well record reports.

C) Field Work-

Well Permitting Section staff performed five (5) field inspections during the past eight (8) weeks. Staff conducted various compliance field checks of abandoned wells, witnessed local monitor well drilling and the drilling of a public community water supply well. Bureau staff continue to coordinate field and enforcement efforts between Compliance and Enforcement, Water Allocation and Water System Engineering.

D) Coordination with NJDEP Compliance & Enforcement Programs-

Work continues behind the scenes to further develop future well permitting enforcement capabilities in NJEMS (the Department's software system). A coordination meeting was held on July 7, 2016 with a final draft of the "new" Notice of Non-Compliance (NONC) form presented for comments. The next work group meeting scheduled for August 3, 2016.

9. Drought Status Update by Jeffrey L. Hoffman NJ State Geologist-

Water levels in Northern New Jersey are currently very low due to very little rainfall over the spring and summer months. Reservoir levels are reportedly lower than average at several key reservoirs in North Jersey, which has led to increased monitoring of drought indicators by Department staff. Information on water levels and the current drought status can be found at: njdrought.org. S. Doughty said that there are three (3) different indicators of drought status: drought watch, drought warning and drought emergency. He stated that within the next week, a drought watch may be issued

for northern counties. Drought watch does not include any mandatory restrictions; the intent is to inform the public and water system operators that water conservation measures should be implemented as water storage levels are lower than optimal.

10. Sinkhole Grouting-

R. Dalton reported that he recently observed the remediation of sinkholes with polymer spray foam that injected into 5/8" inch conduits that are inserted into the ground. He discussed the grouting process in which two (2) different compounds are mixed at the nozzle and the mixture is injected below ground surface to fill the underground voids of concern. The mixture has a very high expansion rate but is only guaranteed to hold up for 10 years by the manufacturer. He said that the product is typically used to lift roads, sinkholes near airline runways and building floors due to the high expansion potential. The first use of the product for the purpose of filling a sinkhole which was undermining a detention basin at Bristol-Myers-Squibb in New Jersey. The manufacturer provided EPS leach test information to show that harmful material will not leach out of the product and into surrounding soils and groundwater but R. Dalton has not yet extensively reviewed the documentation. R. Dalton projected that this product might be used for projects addressing sinkhole problems in limestone and karst geologic formations.

11. NJDEP Program Updates

- Status of the Revisions to N.J.A.C. 7:9D- T. Pilawski stated that she does not have any update with regard to the status of the draft revisions to the well rules since the Board's May 26th meeting.
- The latest version of the Permit Extension Act, which includes well permits, applies only to the nine counties affected by Superstorm Sandy. These include: Atlantic, Bergen, Cape May, Essex, Hudson, Middlesex, Monmouth, Ocean and Union Counties.

12. Adjournment-

A motion to adjourn was made by G. Poppe at 11: 15 am. The motion was seconded by G. Craig and approved unanimously.

Note: Some Board volunteers (less than a quorum) remained after the meeting to review with S. Reya and P. Bono the dewatering well driller exam questions. The exam had not been reviewed in over 15 years and was found to be inconsistent with current well rules.