

# TOWN OF HAMPDEN MASSACHUSETTS

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**BOARD OF SELECTMEN**

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July 2, 2015

Jim Bumgardner, PE  
Massachusetts Department of Environmental Protection  
Western Region  
436 Dwight Street  
Springfield MA 01103

Re: **Hampden Country Club Water Management Act Permit Amendment Application**  
**Transmittal number: X263986**

Dear Mr. Bumgardner:

On behalf of the Town of Hampden, we are writing to provide comments on the Hampden Country Club's Water Management Act Permit Amendment application. The Board of Selectmen/Health held a heavily attended meeting on June 29, 2015 for all town residents and interested parties to voice their concerns and ask questions of the consultants we hired to assist with a review of this application. Thomas C. Couture, Sr. PE and John C. McClellan, PhD, PE (see enclosed bio), both from Tighe & Bond, presented an overview of the application submitted to DEP and received comments and questions from residents. In addition to this letter, enclosed are copies of all correspondence the board received from our residents regarding this submittal. The following are the comments and questions provided to us by Tighe and Bond engineers, to which we would like feedback from you.

## **Background**

Our understanding of the existing Water Management Act (WMA) Permit and the proposed amendment is based on the application package prepared by Fuss & O'Neil Inc. dated May 28, 2015 and is summarized as follows. A WMA Permit was first issued to the Hampden Country Club's previous owner, Friel Golf Management Company Inc., on August 3, 2001, with subsequent modification dated December 19, 2001. The WMA Permit was transferred to Hampden Realty Partners, LLC on August 28, 2006, and from Hampden Realty Partners to the current owner, Hampden Country Club, LLC, on September 6, 2012. The permit authorizes an average combined withdrawal rate from all the sources on the site of 135,300 gallons per day (gpd), equating to a total annual withdrawal rate of 33,014,000 gallons, over a 244 day operating period. The permit allows the following maximum daily withdrawals from each of the individual sources:

Irrigation ponds	300,000 gpd
Caretaker's Well	216 gpd
Green House Well	490 gpd
Maintenance Shed Well	533 gpd
Clubhouse Well	36,144 gpd

The four wells are potable water sources and the irrigation ponds are used for irrigation only. The Clubhouse Well is a Transient Non-Community public water supply well, which is currently inactive. An application to abandon the Clubhouse Well as a public water supply has been filed with the DEP by the Hampden Country Club.

The conditions of the existing WMA permit include requirements for metering all sources and annual meter calibration, leak detection and repair, low flow plumbing appliances, irrigation conservation and water quality measures, and an emergency response plan that includes contact with local water resource officials with respect to water restrictions under severe drought conditions. The WMA permit General Conditions provide that the authorized withdrawals may be restricted in a water emergency declared by the DEP.

Under the **proposed** WMA permit amendment, the maximum daily withdrawal from the Clubhouse Well would be **increased fourteen-fold from 36,144 gpd to 518,400 gpd**. The combined average daily withdrawal and total annual withdrawal would not be changed, nor would the maximum daily withdrawal from the other wells or the irrigation ponds.

### **Comments on the WMA Permit Amendment Application**

There are numerous potable water wells in the vicinity of the site including residential wells and the Thornton Burgess Middle School wells that could potentially be affected by water withdrawals at the Hampden Country Club.

Under the proposed permit conditions, an increase of **more than ten times** in the withdrawal of groundwater from the site would be allowed, as long as the total annual withdrawal from the site is within the existing permit limit. We are concerned that the highest withdrawals from the well would likely occur during dry periods when such withdrawals would have the greatest potential to affect nearby wells, and that large withdrawals could continue over an extended duration.

With regard to water quality, the WMA Permit Amendment application materials state that the subject Clubhouse Well will be used for irrigation only, and therefore water quality testing is not included as part of the pumping test proposal. Despite the fact that the Clubhouse Well will not be used to supply potable water, we are concerned about the potential for impacts to nearby potable water wells that may be caused by the proposed withdrawal. Therefore, water quality testing should be performed as part of the prolonged pumping test similar to the testing that would be required by the DEP for a potable well.

Following are some additional specific comments relative to the Site Screening Worksheet included in Appendix D of the application submittal.

#### Section A – Demand Management

The average day demand of the system is listed as 135,300 gpd, which is the permitted annual average withdrawal for the site. Is there any documentation of historical withdrawals to support this?

The Peak Day Demand of the system is stated as 0.52 MG – what is the basis for this? It is noted that the maximum daily withdrawal under the existing permit would be limited to 337,383 gallons (the sum of the individual maximum day withdrawals listed above).

#### Section B - Potential Environmental Impact

Item 2 – Sensitive receptors within 1,000 ft of the site: The application states that there are no vernal pools within 1,000 ft of the site. While there may be no vernal pools within 1,000 feet of the Clubhouse Well, according to the MassGIS Data – NHESP Certified Vernal Pools web page, there appears to be a certified vernal pool located on the Hampden Country Club site (CVP-NUM 7412).

## Section B-1 Stream and Basin Section

The proposed withdrawal is listed as 520,000 gpd; however, the proposed permit conditions would allow 520,000 gpd from the Clubhouse Well plus 300,000 gpd from the irrigation ponds, plus additional small withdrawals from the other wells. Assuming that the maximum withdrawal is limited to 520,000 gpd, the proposed withdrawal is calculated as 0.82 cubic feet per second per square mile of contributing drainage area (cfs/m). This proposed withdrawal is **significantly greater** than both the reported 50% August Median flow (0.15 cfs/m) and the 7Q10 flow (0.061 cfs/m).

In summary, we have the following general concerns:

- Potential for drawing down the groundwater level so as to affect nearby wells
- Potential for causing degradation of water quality in nearby wells by drawing in or increasing the concentrations of contaminants
- Potential for impacting surface water resources

In light of the concerns stated above, we recommend requiring additional explanation and documentation of the need for such a large increase in the withdrawal from the Clubhouse Well. Assuming that the need for the proposed withdrawal can be supported, we recommend the following additional testing and monitoring.

### Recommended Additional Testing Requirements

1. Pumping Test discharge point: The application package proposes directing the pumping test discharge to the irrigation ponds. Since the nearest pond is near the Clubhouse Well (approximately 400 ft), discharging to the irrigation ponds could potentially skew the results of the test by recharging the groundwater near the well. Discharging to the ponds would also affect the water levels in the ponds and in Watchaug Brook, preventing monitoring these water levels as part of the test protocol. We recommend directing the discharge to Watchaug Brook at the western edge of the property, as far downstream as possible, employing suitable environmental controls to prevent erosion damage.
2. Additional groundwater monitoring wells: There is a concern that the proposed monitoring well network will not adequately capture impacts to existing wells serving residences on Raymond Drive, and the wells serving the Thornton Burgess Elementary School. In addition to the monitoring wells proposed in the application submittal, we recommend installing the following **additional** monitoring wells:
  - a. Three additional bedrock monitoring wells along the northern boundary of the site near Raymond Drive.
  - b. One additional bedrock monitoring well on the Senior Center property on Allen Street
  - c. Two additional monitoring wells on the Thornton Burgess Middle School property. One of these wells should be a bedrock well, the second should be an overburden well. We note that it is unknown whether the Middle School Well 2 is an overburden or bedrock well.

The additional wells should be installed, developed, and monitored during the test in the same manner as described in the application for the other monitoring wells.

3. Surface water monitoring: In order to determine if the proposed withdrawal will impact surface water resources in the area, we recommend installing staff gauges to monitor the irrigation pond level and the level of Watchaug Brook at a point upstream of the pump test discharge. These

surface water levels should be monitored starting 5 days in advance of the test to establish baseline levels, and at two hour intervals during the test similar to the monitoring wells.

4. Water quality testing: We understand that the proposed well will be used for irrigation only; however, it is possible that the large proposed withdrawal could impact groundwater flow patterns and introduce contaminants to the potable water wells in the vicinity. Therefore, we recommend requiring water quality testing in accordance with the Mass. D.E.P. Guidelines for Public Water Systems, Appendix A, on samples collected from all of the additional monitoring wells proposed above in Item 2. These wells could be sampled directly, or alternatively, samples could be collected from the taps of private residences near the proposed monitoring wells.

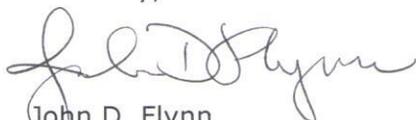
### **Recommended Permit Conditions**

As discussed above, in the event that the prolonged pumping test results support the proposed withdrawal, the permit conditions would allow a large increase compared to the existing withdrawals over an extended period during dry conditions. It is acknowledged that the existing permit provides for restrictions in the authorized withdrawals under drought or water emergency conditions; however, there is a concern that operation of the Clubhouse Well as proposed could have a long-term effect on the groundwater level that could cause problems or failure of other wells in the vicinity. Residents are concerned that in the event of future problems with their wells, it would be difficult or impossible to determine if the problems are associated with the proposed Clubhouse Well withdrawal. Therefore, permanent monitoring of both the Clubhouse Well and one or more additional wells in the vicinity is recommended. These wells should be equipped with transducers capable of continuous level monitoring. In the event that the groundwater in any of these wells falls below trigger levels to be defined in the permit, the allowable withdrawal from the well would be reduced until the groundwater level recovers. The location of these permanent monitoring wells and the trigger levels would be determined based the prolonged pumping test results.

In order to ensure timely and accurate reporting of withdrawal and monitoring data to the DEP, we recommend requiring that the owner hire a licensed third party consultant (Professional Engineer or Professional Geologist) to prepare and file periodic reports, provide immediate notification if groundwater trigger levels are reached, and certify that permit requirements for maintenance of metering instruments are met.

Our Board is committed to our town, our residents and our environment. We are willing to meet with any of your staff, and attend any future meetings or hearings to hear and/or participate in any discussions. We are very appreciative of the effort that you and your department have shown towards protecting the interests of our community. Please do not hesitate to reach out to us for anything further.

Sincerely,



John D. Flynn  
Chairman, Board of Health

/pbc  
Enclosures

cc: Thomas C. Couture, Sr. VP  
John C. McClellan, PhD, PE