



Charles River Watershed Association

By Fax and Mail

October 31, 2006

Kellie O'Keefe
Department of Environmental Protection
205B Lowell Street
Wilmington, MA 10857

Re: Draft WMA Permit, Town of Medfield

Dear Ms. O'Keefe:

Charles River Watershed Association (CRWA) has reviewed the draft Water Management Act (WMA) permit modification for the Town of Medfield, dated September 25, 2006. CRWA appreciates the opportunity to comment on these changes in advance of the modified permit being issued.

As the Department is aware, Medfield's reporting pursuant to the Water Management Act has been incomplete and inadequate. A review of the Town's 2004 and 2005 Annual Statistical Reports (ASR) shows incomplete data (forms not filled out in their entirety) and erroneous entries (see *e.g.*, 2004 ASR, Parts D and F). A DEP file review showed only parts D and E of the 2005 ASR were submitted.¹

Accurate and full reporting is essential to evaluate the Town's performance and management of its water system as well as to assess the accuracy of its claims regarding sector use (*i.e.*, residential, municipal and commercial use). The Department should require the Town to submit accurate ASRs for 2004 and 2005 and include timely and accurate reporting by the

¹ In its cover letter to the Town's January 14, 2005 draft WMA permit, the Department stated:

The Town has not provided accurate information on the distribution of water by water type (*i.e.* residential, semi-residential, industrial, etc.), as well as the population served by the public water system (which would not include any population served entirely by private wells or on other water systems). The draft modified permit includes a date by which this requirement shall be met. Failure to meet this requirement by the specified date may result in enforcement action against the Town. (Emphasis added).

See also, May 30, 2003 Response to OTC revised sections A through E of Town's ASRs for 2000, 2001 and 2002.

Town as an express permit condition. We would appreciate being copied on the corrected 2004 and 2005 ASRs.

This draft permit (2006 draft permit) substantially weakens key provisions that the Department prescribed in the Town's 2004 and January 2005 draft permits.² Now, the summer to winter water use ratio and cap have been eliminated entirely, the Town's obligations with respect to industrial and commercial water use has been weakened, the streamflow-triggered restriction requiring hand held outdoor watering only when flows are low now has been changed to allow sprinkler use and the Town has up to five years to meet the permit performance standards. CRWA believes that to prevent further damage to the environment and to achieve the necessary balance among competing uses (in stream and water supply) required under the Water Management Act (WMA) as well as to ensure that the safe yield of the basin is not exceeded, that the permit conditions discussed below are necessary.

The Charles River is classified as medium stressed pursuant to the Water Resources Commission's *Stressed Basins* report (2001). CRWA believes, however, that the tributaries in the upper watershed are more properly classified as highly stressed, especially in tributary headwaters with large withdrawals. As the Town's consultant, SEA Consulting Inc., recognizes, "[t]he Charles River is impacted by numerous groundwater withdrawals in nearly every community within the watershed." Streamflow Monitoring and Well Management Plan (SEA 2003). About 41 water supply wells with Zone IIs intersecting either the Charles or one of its tributaries, including Medfield's, are located between the Medway and Dover USGS gauges. *Id.* Medfield's wells are in close proximity to the mainstem.

Pursuant to the Department's WMA Policy (2004) and Guidance (2006), towns are required to justify an increase in their permitted withdrawal volume above existing levels and to offset water use above an established baseline. As noted in the Department's cover letter to the Town's draft January 2005 permit, the WMA Policy is intended to prevent conditions from getting worse.

Medfield has already received an additional 0.20 million gallons per day (mgd) due to the transfer of the Medfield State Hospital withdrawal volume. While the State Hospital will be redeveloped, population increases, at least initially, from the redevelopment are projected at 757, which based on 65 residential gallons per capita day (rgpcd), equals 49,205 gpd. While the Department apparently bases its allowance of an increase in the Town's permitted volume in the Charles to the period four volume on this, this fails to take into consideration the 0.20 mgd already transferred to the Town from the State Hospital.

There is much that the Town can and should do to reduce its current use. Medfield has had consistently high residential water use since 1988, mostly estimated at over 100 rgpcd. Based on figures reported in the Town's 2004 Annual Statistical Report, its rgpcd is close to 90.³ Most of this water goes to nonessential outdoor use, and in particular, summertime lawn

² The Department has bent over backward to accommodate the concerns of the Town. Indeed, the 2005 draft permit revised the draft 2004 permit following a meeting with the town and its consultant.

³ As discussed above, Medfield did not report its rgpcd in its 2005 ASR. Nor did it report unaccounted for water for 2005.

watering.⁴ Although data has shown that every other day watering restrictions can actually increase water use, the only mandatory restriction imposed by Medfield on outdoor watering has been odd-even day watering restrictions. The Town's unaccounted for water (UAW) in 2004 was quite high at 19%. Under the WMA Guidance, the Town now has up to five years to meet the 65 gpcd and 10% or less UAW performance standards.

CRWA believes that the Town should be required to adopt an immediate water banking program for new development, redevelopment and expansion projects based on, at a minimum, conserving two gallons for every gallon of new demand. Alternatively, the offset requirement should take effect now. Notably, while objecting to the hand-held only watering restriction when streamflow fell to 0.50 cfs in the 2005 draft permit (now removed) SEA stated that "assuming this streamflow condition is removed from the final permit, [the town] is prepared to implement the other significant conservation requirements contained in the draft permit including water banks, the unaccounted for water standard, the residential per capita water use standard, the enhanced water conservation plan, the water conservation program for commercial and industrial users, and continued public education."

The Town's baseline withdrawal rate of 1.42 mgd (baseline) should also be lowered based on Medfield's specific circumstances. Medfield has received a significant increase in its water allotment through the transfer of the State Hospital water, which is far more than the redevelopment is anticipated to use in the near term. Because Medfield is one of the highest residential water users in the watershed, its baseline, based on its three-year average use, is inflated. It is unfair to treat Medfield the same as other Charles towns that do not have an additional allocation of water and are effectively conserving water.

Even if Medfield exceeds its baseline in 2007, it will not be required under the 2006 draft permit to perform offsets during the life of this permit, which expires in 2009. This is because Medfield is only required to perform an offset feasibility study if it exceeds its baseline for the first time in 2008. It then must perform the feasibility study in 2009; however, if its withdrawals in 2009 (or thereafter) do not exceed its baseline, it is not required to implement the results of the offset study. Therefore, Medfield will not have to implement offsets until at least 2010, long after this permit expires (and presumably, long after its water use has increased substantially). Four years hence for offset implementation is both unwise and unwarranted. If Medfield exceeds its baseline in 2007, then it should immediately be required to perform the offset feasibility study and, upon the Department's approval of the study, begin to implement the results forthwith.⁵

CRWA strongly opposes Special Condition 8's proviso that the results of the offset study only need to be implemented as long as withdrawals exceed baseline. If, for example, the following year is a wet year and the town is therefore able to stay below its baseline, it would no

⁴ The Town's summer water use in 2005 was close to double its winter use. Its summer-to-winter water use ratio computed based on a comparison of the five highest water use months to the five lowest use months was 1.71 as calculated by the Department and as high as 1.82 in 2001. Curbs on outdoor lawn watering present an opportunity for significant water savings.

⁵ It is not clear how the Department will determine whether offsets are "feasible." CRWA believes that the burden should be on the permittee to demonstrate that there are no possible offsets that the town can perform. Offsetting 100% of the increase over baseline should be an explicit permit requirement.

longer be required to perform offsets even though it exceeded the baseline in previous years. Since many types of offsets are not “on again, off again” measures, this is completely impractical, prevents effective long-term municipal capital planning, and creates a yo-yo effect in which offsets are never completed. Once the baseline is tripped, Medfield should be required to implement the results of the offset study as approved by DEP. Accordingly, this limitation should be stricken.

While CRWA commented on the 2004 draft permit that the summer-to-winter ratio was set too high and that summertime water conservation should be greater, the Department has now eliminated the ratio and seasonal cap completely. Although the Department may feel that other conservation measures will result in summertime water savings, it has no data with respect to the efficacy of Option 1, the two times a week sprinkler option.⁶

CRWA’s additional comments on the 2006 draft permit are as follows:

- In addition to the meters required at the King Street Field and Keller-Sullivan, the Town should be required to install moisture sensors on the irrigation systems at these fields.
- The language in Special Condition 7 on p. 10 under Option 2 should be changed to require notification “in any event no more than three days after the trigger is reached” instead of “three days after implementation of the restrictions” because this is confusing.
- We recommend inserting language in Table 5 “System Water Audits and Leak Detection” #4 that leaks of three gallons or more be repaired “as soon as possible and in any event within three months of detection” to emphasize the importance of fixing these large leaks right away. This accords with the following requirement that leaks of less than three gallons are required to be repaired as soon as possible (we recommend striking “in a timely manner” in the next bullet) and combining the 2nd and 3rd bullets in this section to read as soon as possible but in no event more than six months from detection . . .”
- In Table 5, Industrial and Commercial Water Conservation: “largest water users” should be defined and also include large residential users since Medfield has low industrial, commercial and institutional (ICI) use. This provision should be strengthened to require actual reductions.⁷ We suggest language similar to that inserted by the Administrative Magistrate in the Town of Wenham’s WMA permit:

⁶ CRWA continues to believe that

Streamflow triggers are the single most important fail safe for protecting rivers and streams when flows are low. Importantly, they also provide a critical link for the public between the need for conservation measures, particularly an effective reduction in lawn watering, and streamflow and habitat protection. Conservation is far more successful when the public understands the rationale for taking action and the streamflow trigger provides this. The second [now Option1], May-September option should be scrapped. It will not preserve the water resource itself, or achieve a balance between competing uses as required by the WMA and its regulations[.]

Letter from CRWA and Conservation Law Foundation to Robert College, September 29, 2005, on revisions to the WMA Policy Guidance.

⁷ The draft 2005 permit required the Town to “implement a program to reduce water use by its ten (10) largest industrial and commercial customers.”

The program shall require a water audit or some other comparable review of water use . . . and a timetable for achieving water use reduction goals identified by the audit.

The Town should also be required to report on the effectiveness of the program. As currently written, it is not clear whether the Town only has to conduct an outreach program and work with its largest customers on ways to reduce use by March 1, 2009, or to actually reduce use “to the extent practicable” by this date.

- It should be mandatory in Table 5 that Medfield’s Public Education and Outreach Plan include a work sheet to enable customers to track water use and conservation efforts. Studies have shown that conservation is most effective when consumers are able to measure the results of their conservation efforts. See e.g. *Understanding the Georgia Public’s Perception of Water Issues and the Motivational Messages to Which They Will Respond* (2003).
- In the first sentence of Appendix A, we suggest changing “fails to document compliance . . . in its 2008 ASR” to “fails to achieve” since this is not intended to be a documentation issue. We also believe that the compliance plan (also applicable to the plan for reducing UAW) should be developed and submitted with the 2008 ASR if Medfield fails to meet the performance standards in 2008.
- Since Medfield seems to be under the mistaken impression that it can withdraw an additional 100,000 gpd in both the Neponset and Charles basins before it is in violation of the WMA, the Department should clarify that this is not the case in the permit cover letter.
- The cover letter and the permit should make it clear that the Department fully expects to impose permit conditions, which go beyond February 28, 2009, in the new permit issued to Medfield in 2009.

Lastly, Condition 2 in Exhibit C to the 50-year lease from the Department of Environmental Management, which requires the Town to reduce withdrawals from well # 6 when flow falls below 30 cfs (0.21 cfsm) at the Rte 27 bridge, until such time as the Department modifies the permit “with conditions to provide additional protection to streamflow commensurate with the use of Commonwealth property for public water supply,” explicitly recognizes the necessity of streamflow protection measures by the Department in the Town’s revised permit.

For all of the reasons discussed above, the Department should immediately impose conditions that will protect streamflow, the ecological integrity of the Charles, and the long-term sustainability of the Town’s water supply. CRWA is happy to work with the Town to ensure these outcomes.

Very truly yours,

Margaret Van Deusen
Deputy Director and General Counsel

Nigel Pickering, Ph.D., P.E.
Senior Engineer

cc: Arleen O'Donnell
Mary Griffin
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