TOWN OF MEDFIELD

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MICHAEL J. SULLIVAN
Town Administrator

May 15, 2012

The Commonwealth of Massachusetts
Division of Capital Asset Management
One Ashburton Place, 15th Floor
Boston, MA 02108

Attention: Mr. Allen Wiggin

RE: Comments on DCAM Submittal for Former Medfield State Hospital
Draft Phase IV – C&D Area Remedy Implementation Plan, April 2012
DEP RTN 2-3020799

To Whom it May Concern:

On April 12, 2012 DCAM and Weston & Sampson, along with supporting consultants from TRC Environmental Corporation and GEI Consultants, presented their Draft Phase IV – C&D Area Remedy Implementation (RIP) for the C&D Area. Copies of these documents were released to the Town for review. These reports were reviewed by some members of the PIP Group, the State Hospital Environmental Review Committee (SHERC), along with the Town's consultants. A fifteen day extension to May 17, 2012 was granted by DCAM for the Town to submit comments on the Draft Phase IV Report.

Additional comments concerning the proposed remediation of the Charles River and C&D Areas were provided in the previously issued letter of Town comments on the C&D Area Draft Final Phase II and Phase III Reports; this prior comments letter was provided to DCAM and W&S on April 24, 2012. In general, an attempt was made to not duplicate prior comments herein; nevertheless the Town has not yet received responses to these prior comments and they are still of concern.

We appreciate the opportunity to comment on these draft submittals.

Sincerely,

Ann B. Thompson

Mark Fisher

Osler L. Peterson

Phase IV – Historic Fill Area/C&D

1. The overall approach and reliance on membranes and barrier liners is not a sustainable solution; a FML liner that needs to be replaced every 5 years, the cost estimates associated with this, combined with the monitoring and maintenance costs are not sustainable.

A liner extended down the river bank in an unstable area is undesirable; we request this aspect of the RIP be modified. After numerous flood events, the liner would be exposed near the river. Additionally, having the liner extend down to the bank prevents the root systems of large plants, such as trees and shrubs from anchoring the bank effectively – unless their roots breach the liner, in which case it will degrade more quickly and not be effective. We do not accept the plan for a cap and membrane liner, but even if one were to be installed, the bank needs to be stabilized in a sustainable manner.

Under the MCP Response Action Performance Standard (RAPS, 310 CMR 40.0191(3)(a)), response actions shall where feasible, "minimize the need for long-term management of contamination at or from a disposal site". The use of the FML liner at the bank of a dynamic river, that needs to be continually inspected (twice annually and after every storm over 2 ½ inches of rainfall) is not consistent with this standard. The land will be owned and maintained by DCR whose resources are spread thinly elsewhere throughout the Commonwealth. Removal of additional fill so that it is not part of or near the bank of the Charles River will alleviate the risks of future bank or liner failure, future erosion due to storms and changing river path, overland storm water erosion and other forces.

2. We disagree with the remedy selection and the process by which the remedy was selected.

3. As discussed in more detail in the Town's comments on the Draft Final Phase II and III Reports, we believe that delineation of the Nature and Extent of contamination in the river sediment and in the C&D/HFA is not complete; we maintain that a full delineation should be completed before a final remedial action is selected.

4. Why did DCAM file the Draft Phase IV without first responding to the public comments on the Phase II and Phase III reports? The town objects to DCAM having prepared this Phase IV before responding to public comments made on the Phase III.

5. Consistent with the Public Involvement Plan and the MCP, the Town anticipates that DCAM will give thorough consideration of these comments presented herein, and those provided on April 24, 2012 by addressing them in the design of potential response actions prior to finalizing its next submittals (Final Phase IV, etc.). Prior comments on the proposed cleanup (Draft Final Phase II and III Reports, etc.) have not yet been addressed.

6. Anywhere you use the term "clean", we assume you will provide test results proving same (cover material, sand, loam, topsoil, concrete, etc.).

7. Regarding the description of proposed sampling and testing to be conducted by DCAM/W&S to demonstrate that the RAAs have achieved Remedial Goals, found in Volume 2, Page 4-5, Section 4.5, we are unclear as to the confirmatory testing program that is being proposed:

a) Testing of the area of CD-TP-102, TP-109 and TP-111 for PAHs and metals is proposed unless excavation to natural soils occurs; why in these areas? Higher concentrations of PAHs have been found elsewhere, and a lead hot spot is apparent in the northern end of the C&D with concentrations up to 14,000 mg/Kg – why is confirmatory testing not proposed in this northern portion and elsewhere?

b) The third bullet states that along the "northern edge" of the gas easement, composite soil samples will be collected from 1-3 feet bgs every 40 feet for PAHs and selected metals. Please show on a map approximately where this testing is proposed and why; where is the "northern edge"?

c) The fifth bullet notes that after excavation and grading activities, samples will be collected every 40 feet from 0-4 feet in the remaining fill area for PAHs and select metals. Is this throughout the C&D area? Please show on a map approximately where this testing is proposed.

8. The RIP does not address sediments with elevated Contaminants of Concern near SED-19/20/21 in the upland wetlands by the Power Plant Area. We request that the RIP be modified to include Nature and Extent sampling, testing and screening (human and ecological) for this portion of the property (upland wetlands).

9. Where is the data for CD-SS-100 series samples collected in December 2010? Why is it not in the data tables of the report along with other recent data?

10. In Section 4.5, page 4-5, why is the area of CD-SS-3 called out for confirmatory testing for lead following hot spot excavation when it has levels of lead at 2,300 mg/Kg when elsewhere levels are much higher? Why are these areas called out as Hot Spots when in the northern regions of the C&D lead levels of 1,300 mg/kg, 1,500 mg/kg, 3,440 mg/kg, 6,900 mg/kg etc. exist? The northern region of the C&D/HFA appears to be one hot spot with an average lead concentration of over 4,500 mg/Kg. Sample SS-01 in the northern region of the C&D, with a concentration of 14,000 mg/kg lead, was called out for confirmation sampling in the Phase IV Report. Please delineate the Hot Spot(s) at the site.

11. Hot Spots shall be considered distinct Exposure Points under the MCP (310 CMR 40.0924(4). If Hot Spots are removed as part of a response action, post excavation sampling should be adequate to be able to identify the new Exposure Point Concentration and assess the remediated area in a risk characterization.

11. In accordance with the MCP, 310 CMR 30.0924 (4) and (5), Hot Spots shall be estimated conservatively and compared to the Upper Concentration Limit (UCL) which for lead is 3,000 mg/Kg:

(4) In determining the concentrations to compare to Upper Concentration Limits, the objective shall be to provide a conservative estimate of the average concentration within the site, and the average concentration within any Hot Spots within the site. A conservative estimate of the average concentration should be developed in accordance with 310 CMR 40.0926(3).

(5) In determining the concentrations to evaluate Hot Spots, the objective shall be to provide a conservative estimate of the average concentration within the Hot Spot. A conservative estimate of the average concentration should be developed in accordance with 310 CMR 40.0926(3).

It appears that the entire northern portion of the C&D area is a hot spot, with an average lead concentration over 4,500 mg/Kg (the Upper Concentration Limit for lead is 3,000 mg/Kg). In order to achieve a Permanent Solution, the UCL must be located at a depth of 15 feet or more, or beneath an engineered barrier (310 CMR 40.0996(4)).

a) Will concentrations exceed UCLs in the HFA after the proposed RIP? If so, does the proposed cover meet the performance standards for a RCRA/CERCLA Cap? Wouldn't it require a low hydraulic conductivity cover material and gas collection system?

b) If it is not planned to have UCL exceedances post remediation, what soils will be excavated to reduce concentrations to below the UCLs? What post excavation sampling will be conducted to support that the concentrations of lead have been reduced to below the UCLs?

12. Hot spots for metals are mentioned to be within the upper 1 foot. How many samples and from where were they collected from in the HFA?

13. What is the concentration of metals in groundwater directly beneath the areas you identify as hot spots?

14. How do you plan to add a foot of cover and the FML liner and meet the same grades that exist currently over the gas easement? It would seem that without cutting the grade, the gas line would be 1 foot higher than it is presently, but the plans suggest future grades will match existing grades.

15. Will oily soil at SED-12R, SED-7 and SED-11R also be deliberately excavated to remove oily soils from those areas?

16. On Page 6, Section 2.4 of volume III of the Phase IV, Table 3 is referenced which contains sediment data for several locations along the existing toe of the slope of the C&D Area that will be removed as part of the remediation project. Table 3 consists of Table 3A (19 samples), Table 3B (9 samples), Table 3C, 3D and 3E. Which of these sediment samples are planned to be removed during the proposed remediation?

17. Will vegetation and topsoil be removed from the entire C&D cap area as part of site grubbing prior to placing the 3 foot cap? What will be done with this vegetation/topsoil that is removed? Or will just the banks be excavated?

18. The dewatering process description is lacking. Where on site is over 1,000 cubic yards of wet soil going to be allowed to drain? How and where will the dewatered liquid be collected and tested?

19. Is section 4.9.1 describing that discharges from on-site dewatering, will water be returned to the water table by being allowed to infiltrate through contaminated fill in the C & D Area?

20. Nothing but grass should be planted in any area where an engineering design was used to cover contamination. The town opposes the use of any plantings other than grasses due to the likelihood that plants will become overgrown and compromise the cover, and also prevent clear observation of the condition of the cover.

21. Resource Area impacts as outlined in the Phase IV Report are different and more significant than those outlined in the Notice of Intent filed with the Medfield Conservation Commission in March 2010. Also, Phase IV resource area impacts are more significant than the reported impacts outlined in the Draft MEPA Record of Decision dated August 10, 2011. The draft ROD response to the request by DCAM to waive the requirement for an Environmental Impact Report (EIR) to be filed before the river and C&D remediation project begins, grants the waiver, allowing for cleanup to begin under a prior Immediate Response Action (IRA) Plan, however the work is no longer being conducted under that IRA Plan; a revised plan is presented in the Remedy Implementation Plan in the Phase IV Report. Below is a summary of the impacts as listed in each of the three documents:

	NOI 2010	**Phase IV 2012**	**MEPA Draft ROD**
BVW Altered	none	3,750 s.f.	3,750 s.f.
Land Under Water Altered	none	9,350 s.f.	8,560 s.f.
LUW Excavation bank	none	1,420 cy bank	none
LUW Fill bank	none	650 cy bank	none
LUW Excavation river	none	45 cy river	none
LUW Fill river	none	45 cy river	none
Boardering Land Subject to Flooding (BLSF) cut + fill	3,450 cy	5,900 cy	2,400 cy
Riverfront Area Impacted	6,888 s.f.	104,500 s.f.	104,500
Bank	none	780 l.f.	780 l.f.

The Town Conservation Commission should be allowed to review these additional resource impacts. Should a new request for waiver be filed with the Executive Office of Energy and Environmental Affairs so that it can review changes to the plan and disturbance of resource areas?

22. Why is the term "the bank of the Charles River" used when describing the area subject to remediation, when in actuality the "bank" is the waste itself?

23. Section 1.7 omits a key concern paramount to stakeholders – loss of flood storage. Restoration of flood storage area is a benefit that DCAM has not fully considered. The Commonwealth has the opportunity to restore needed flood plain, protect the water supply and prevent future flood damage due to 12.5 million gallons of flood waters displaced by this HFA. The Legislature passed, and the Governor signed, the Global Warming Solutions Act in August of 2008. Section 9 of that Act directed the Secretary of Energy and Environmental Affairs, and an advisory committee, to analyze strategies for adapting to predicted impacts of climate change. This comprehensive Report was issued in September 2011 and provides both short term and long term suggestions on how to prepare for the effects of climate change. The Report details the climate change impacts already observed and documented and includes specific examples of the impacts these changes have had on the Commonwealth's economic, transportation and local infrastructure as well as on natural resources. The strategies recommended include cost-effective and risk based approaches to address known risks and vulnerabilities. Included in the identified risks and vulnerabilities are increased damage due to lost flood storage, the location of "old" landfills/dumps near rivers or in wetlands, and flood impacts to water supplies, transportation infrastructure and businesses.

DCAM has not addressed the recommendations in the Administration's own Report. See http://www.mass.gov/eea/air-water-climate-change/climate-change/climate-change-adaptation-report.html.

24. What is the difference between a "combustion remnant" (p. viii) and incineration waste?

25. Has Spectra Energy approved this plan? If not the public should be allowed the opportunity to comment on changes made to the plans after Spectra's review.

26. What does "a backhoe or similar equipment" and "minimal dewatering" mean on page ix? If minimal dewatering is expected, why was such high cost carried for dewatering in the other alternatives reviewed in Phase III, given that these other alternatives are even further away from the river?

27. What exactly are the "residential" and "agricultural" purposes that will be prevented by the proposed AUL?

28. The location of the decontamination station should be shown on a plan.

29. Please explain the sentence "Metal debris, uncoated concrete, uncoated brick and rock that is larger than one-half cubic yard in size will be segregated on-site and off-site recycling, as applicable."

30. How is it cost effective to crush concrete on site and use it as fill versus the cost of simply bringing in clean fill? The town is opposed to any on-site crushing and reuse of this material on site because there is no way of knowing if such material has asbestos fibers on it; sieving and/or crushing on-site poses the risk that asbestos fibers stuck onto this material could be released to the air.

31. Please provide the calculations that back up the statement that metals in groundwater were detected at "statistically insignificant" levels. What statistical proofs were used? Was groundwater sampled directly from within the fill layer and analyzed specifically during assessment activities? [A prior comment from the Town on the Phase II Report emphasizes that groundwater monitoring for metals in the HFA should continue, and was required by MassDEP].

32. If monitoring wells in the HFA area were screened only partly in the HFA, and partly in the clean underlying soils, how might that bias your groundwater results?

33. The town disagrees with the hydrogeological analysis by W & S. The conclusion that "there is no hydrogeological connection between the groundwater and the Town Well #6" can only be made by performing a Zone II pumping test, and we understand that DCAM refuses to do so. We believe it is necessary to do further studies to determine if there is a hydrogeological connection at times of pumping.

34. Section 3.1 states that there is "unacceptable risk to human health if GW in the HFA is used as a source of drinking water in the future." Since the site is located in a Zone II - isn't the groundwater a current source of drinking water? What (geographically) does "in the HFA" mean in this sentence?

35. The Phase IV states that the selected alternative will "enhance the existing wetland resources by restoring approximately 10,000 square feet of wetland..." yet it fails to mention that the alternative maintains the initial destruction of over 100,000 square feet of wetland/riverfront, including loss of flood storage capacity.

36. The Phase IV has no description of how leaving the waste material below the groundwater table is acceptable. If this practice would not be allowed today, why is leaving this material below the water table acceptable here?

37. What is the reference for the statement that implies that land disposal continued into the 1990's (page 1-1).

38. What are the terms and conditions of the AUL described in 6.3.1, given that residential property will be extremely close to the HFA?

39. In Section 6.6, is the Charles River really owned by the Commonwealth, or the people of the USA?

40. The town disagrees that its concerns have been "methodically incorporated" into the selection of the remedial alternative.

The Town of Medfield, the affected community, does not consent to the remedial alternatives selected and presented by DCAM in the Phase IV as responsive to the desires of the public for the protection of human health and the environment. Given the environmental sensitivity of the site, the benefits of a comprehensive clean-up far outweigh the costs, as documented in comments made by the Town on the draft Phase III Remedial Action Plan.

Environmental Monitoring During C&D Area Remedy

1. Daily engineer inspections and turbidity monitor readings upstream and downstream of the work area does not seem sufficient to address potential releases of sediment. What time of day will the readings be taken? During active site work? At a minimum a baseline and two work time inspections and readings should be completed.

2. On-site reading of the air quality canisters should be incorporated into the plan, otherwise, exceedances will not be detected until after the fact, resulting in potentially unsafe conditions for workers.

Also, the Phase IV should show on a plan the locations for ambient air monitoring.

3. Will a compost filter sock be sufficient to keep sediment out of the river from upland if there are heavy rains? Will it be removed post construction?

4. What contingencies are in place in the event that heavy rains erode the surface soils in the C&D work area to the river?`

5. The storm water pollution prevention plan should be appended to the Phase IV because of the potential to release contaminants to surface water and groundwater. This should not be delegated to the contractor.

Long Term Monitoring of C&D Area

1. The Long term monitoring plan for the C&D Area includes inspection during high and low water periods each year, and inspection after every one year storm of 2.5 inches over a 24 hour period. Who will be conducting these inspections in perpetuity? DCR? The land will not be operated by DCAM in the future; it will be under the control of DCR. We do not believe it is likely that they will provide resources after every 2.5 inch storm to inspect the bank and other areas for erosion. How will you guarantee that the long term monitoring will be sufficient?

2. It is not reasonable to expect that DCR will conduct the required inspection and maintenance of the cap and liner; the liner needs to be replaced every 5 years.

3. The long term monitoring report form/checklist should more specifically call out for review of the integrity of the C&D cap material for holes, breaches, exposures of underlying debris/ash fill, and visible evidence of significant erosion of the cover (appearance of eroded swales, etc.).

4. Paragraph 3 of page 3 in Appendix G states that following construction, two years of annual monitoring at the site will be undertaken. We expect that the inspections for erosion will be required more frequently – twice yearly and also during storm events of 2.5 inches of precipitation or more as described in the Phase IV Report and in #40 above.

5. Who gets copies of the long term post-inspection monitoring reports? The Town requests that the report specify that the Town will receive copies of all monitoring reports as well as raw data (elevation and grades of the site compared to elevations at closure – Appendix G, page 4, 3.5 *Settlement Monitoring*).

6. In Appendix G, page 3, Section 3.4 *Groundwater Monitoring,* as stated previously in the Phase III Report Comments, monitoring should also be conducted for soluble metals following construction, quarterly then biannually for five years as required by DEP (see the Town's Phase II/III Comment # 2 under *Phase II – C&D Groundwater Monitoring Data.*

CHARLES RIVER SEDIMENT (CRS) CLEANUP

1. Even in the dry season, you will be working in up to 7 feet of water to remove the oily sediment. If mechanical excavation of the oily sediment is the selected alternative, this work should be done in dry

ground. If oil or contaminated sediment is stirred up, it will be nearly impossible to contain within the silt curtain and work area. This is consistent with construction best practices.

We disagree that clamshell dredging produces less turbidity than hydraulic dredging; hydraulic dredging removes at the river bottom, while clam shell dredging entails spillage and drainage from the clam shell as it is removed from the water column.

2. Please specify what turbidity measurements are expected from each of the dredging methods and justify why these are acceptable. What are the ambient NTUs in the river and what is tolerable to the species in the river?

The report says they will be monitored but does not provide any standards by which the work conditions and releases will be judged and the safety of the activities monitored. The metrics to be monitored should have performance standards specified, and methods of adequate sensitivity by which they will be monitored should be cited. Daily inspections are inadequate – activity should be the justification for monitoring frequency.

3. The Town also requests that VOC and EPH fractions and target analytes testing of surface water and sediment be conducted during excavation of river sediment.

4. How can a vactor truck be used to manage turbidity? If an unacceptable turbidity condition occurs during CRS removal, we believe that a vactor is unlikely to have any benefit.

5. The report is inconsistent with respect to the removal volume for CRS. Page ix states that 30-45 cubic yards will be removed. Section 3.4.2 states that 45-60 cubic yards will be removed, up to double the amount stated on page ix. If an area 800 square feet by 2 feet deep is 60 cubic yards, how could there be less than 60 cubic yards? Please provide an accurate and consistent sediment volume as well as an accurate figure.

6. On page 4-5 you reference the CRS cleanup area as 40 ft. by 20 ft. by 2 ft deep (800 s.f.). Scaling off prior plans, we measure a semi circular area with a radius of 20 feet, therefore totaling 1,000 square feet. In addition, we maintain that the area with free phase oil in sediment is, in fact, larger as demonstrated by the exploration logs. We do not believe that 800 s.f. encompasses the full extent of the oily sediment.

7. We disagree that oil booms will capture the oil that will be released as part of the removal. Oil soaked sediments will release at the bottom of the river and in the water column, whereupon the released petroleum hydrocarbons will float to the surface. Surface booms will not completely mitigate this release condition.

8. What sediment excavation limit data will be collected during the cleanup to document that clean limits were reached? Visual observation for petroleum and one toxicity test (page 4-5, bullet 7) are not sufficient to assess post remediation conditions; extractable petroleum hydrocarbons analysis (EPH) with target analytes and VOCs analyses on samples from the excavation lateral limits and bottom samples are

necessary to document post-cleanup concentrations. Post excavation confirmation sampling is proposed in the C&D Area, why not in the CRS area?

9. In Appendix B, page 11, Section 6.3.2 discusses removal of the oily sediment from the Charles River. It describes the removal by a clam shell bucket and the use of a vactor truck to control turbidity during excavation. As questioned by the CRWA, why not use the vactor to remove the sediment, instead of the clam shell bucket?

10. Stone will not match the surrounding sediment stability process. Are we to infer from the text that the stone will provide temporary stability of the hole left from the dredging until the sedimentation processes of the river have filled in the spaces around the stone to produced a more natural substrate? Angular stone is not a natural replacement for the river substrate, and dumping rocks in the river is not an acceptable form of replication.

11. Rock vanes in this part of the river are unsuitable. The location has neither the depth nor the width to accommodate a rock vane AND the river traffic, which is quite heavy and frequent due to recreational use.

12. The timing of dredging must be coordinated with biological windows in the stream and on the bank to ensure that species in the river are not adversely affected at key times (egg laying, migration etc) and to enable the biostabilization plantings to root sufficiently; otherwise they will not survive and re-emerge the following growing season.

13. The executive summary states that the "release origin" of the oil in the Charles River is "unknown". Why does W & S continue to make false statement in this regard, given that there are witnesses to the release event?

Again, thank you for the opportunity to comment on these documents.

cc: Ms. Carole Cornelison, Commissioner, DCAM
Mr. John O'Donnell, PE, LSP, Deputy Director, DCAM
Ms. Sandra Duran, Director, DCAM
Mr. Mark Baldi, Section Chief, MassDEP Central Regional Office
Mr. Frank Ricciardi, P.E., LSP, Weston & Sampson
Ms. Margaret Van Deusen, Deputy Director and General Counsel, CRWA
Mr. John Thompson, LSP, SHERC Chairman
Ms. Deborah Bero, Esq., Medfield Conservation Commission, SHERC
Mr. William Domey, PE, Board of Health, SHERC
Mr. Ralph Tella, LSP, SHERC
Mr. Cole Worthy, LSP, SHERC
Ms. Andrea Stiller, LSP, ADS
Dr. Cheryl Montgomery, US ACE - ERDC
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