[Meg], Steve W, Mark G, Anita R-S, Mike M, Dan G.

**Rigassio-Smith, Anita**

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| **From:** | Wolf, Steven H CIV USARMY CENAE (US) <Steven.Wolf@usace.army.mil> |
| **Sent:** | Thursday, March 30, 2017 2:41 PM |
| **To:** | dickerson.dave@epa.gov |
| **Cc:** | Lederer, Dave; Rigassio-Smith, Anita; Morris, Mike (Bourne); Groher, Daniel M CIV USARMY CENAE (US); John Lally (john.lally@lallyconsulting.com); Iorio, Maryellen CIV USARMY CENAE (US) |
| **Subject:** | Friday cap meeting |
| **Attachments:** | cap_background_2017-03-30.pdf; cap_background_2017-03-30.xlsx |

Greetings, it looks like we can squeeze the Friday morning meeting in and get back to our respective homes before the weather deteriorates too much. If the forecast changes, we'll proceed with the backup web meeting that Mike Morris has already set up – we'll make that call by 8 AM on Friday.
Agenda items include,

- Review of objectives
- Overview of the capping effort at Silver Lake
- Review of the attached task summary table – we'd like to review this line by line discussing the goals/assumptions/output for each task
- Clarify responsibilities and schedule going forward

Kick off Mtg

Thanks, Steve

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Steve – 3 zones for cap
1 – 25-50' near shore (~~pto~~ wave energy, ice, flooding)
2 – 100' out (edge of sep. phase)
– minimal ice
[3 – GW discharge zone]

"2015 snapshot" for backfill

| | Background Work Supporting the Evaluation of Feasibility and Initial Design of an Interim Cap for the Aerovox Nearshore Area - 30MAR2017 | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Information Requirement** | **Relevance** | **A. Scope of Work - Minimal** | **B. Scope of Work - Expanded** | **Lead(s)** | **Estimated Schedule** | **Estimated Level of Effort** |
| | ***An initial approximation of interim cap performance objectives is key in fully scoping the information requirements 1-11 below.*** | | | | | | |
| 1 | Physical characterization of the nearshore area including the full width of the waterway | - presentation of data<br>- impact of cap placement relative to full waterway | - use existing bathymetery and GIS to create cross sections and calculate areas | - create 3D visualization of waterway and subsurface | Mike Morris + Dan Groher | A. 1 week<br>B. 2 weeks | A. $3K<br>B. $14K — may not be necessary |
| 2 | 3D extent of DNAPL beneath the nearshore area | - determine the extent of required cap<br>- determine areas with seepage potential ★★★ Dan: fluorescent dye? v. IA | - use existing boring data to create conservative confirmed/probable and potential zones | - collection of additional shallow cores to increase confidence in zone boundaries → 15 cores, 45 samples PCBs & VOCs | Mike Morris + Dan Groher | A. 1 week<br>B. 2 weeks | A. $3K<br>B. $31K<br>FCN $31.2k<br>EPA: yes on B |
| 3 | Groundwater discharge zones and discharge rates in the nearshore area | - design parameter for the cap<br>- assessment of potential alteration of groundwater flow field by the cap | - use existing groundwater flow data from the Aerovox Phase 2 and 3 reports for screening level assessment (use of assumes AVX model)<br>- estimate conservative/"worst-case" potential discharge scenarios to determine if there are signficant data gaps | - expand on existing or develop a new Modflow application to evaluate the impace of the cap<br>- field measurement of discharge parameters | Mike Morris + Dan Groher | A. 2 months<br>B. 4 months | A. $52K<br>B. $88K<br>$74.6k |
| 4 | Flux of dissolved phase contaminants | - design parameter for the cap<br>- assess impacts of delayed removal of source | - use existing groundwater data and flux calculation from the Aerovox Phase 2 and Phase 3 reports for screening level assessment<br>- field measurement of flux 45 drive pts? | - add transport to the groundwater flow model application to evaluate effectiveness/impact of the cap → Needs more work: what is river seeing? | Mike Morris + Dan Groher | A. 2 months<br>B. 4 months | $32.8k<br>A.$63K**<br>B. $30K<br>2 weeks |
| 5 | Physical characterization of the ambient sediment | - design parameter for the cap | - conservative assumption of sediment properties based on previous experience and data from comparable sites | - sub-bottom profiling<br>- CPT<br>- collection of cores for lab analysis | Steve Wolf<br>Lally - not too elaborate or expensive | A. 1 week<br>B. 5 months | A. $3K<br>B. $30-120K |
| 6 | Gas ebulition<br>Theo Foss - HDPE cap, gas upwelling | - design parameter for the cap | - literature review of cap design and performance at comparable sites<br>-Perform "sensitivity" analysis to assess gas production rates that would be problematic | - enlist support of an ebulition specialist + collection of site specfic data<br>- possible bench scale test | Dan Groher | TBD | TBD |
| 7 | Wave and current energy | - design parameter for the cap | - boat based measurements<br>- localized hydrodynamic model application<br>(note that this is being performed to support all Upper Harbor work)<br>- use ERDC data<br>- DELFT 3D model (similar to EDFT) but better | | John Lally | 3 months | $120K** - whole upper harbor<br>- does not include ADPT transects by Battelle |
| 8 | Ice impacts | - design parameter for the cap | - ice scour model application<br>(note that this is being performed to support all Upper Harbor work) | | Mike Morris + Tuthill | 1 month | $12K - whole upper harbor |
| 9 | Construction complexity/impacts<br>★ ▶ need reach of land-based tele-handler | - incorporate into cost estimate<br>- defensibility of remedy | - review of comparable sites<br>radial / conveyor (100' radius) | - if cost estimate is high enough, perform limited value engineering study | A. John Lally<br>B. Corps | A. 2 weeks<br>B. TBD | A. $10K<br>B. TBD |
| 10 | Ecological functionality of completed cap and impact on surrounding area<br>Steve to check w/ Barb | - design parameter for the cap<br>- defensibility of remedy | - definition of biologically active zone<br>- review of comparable sites<br>- calculation in changes to riverway cross sectional area | - incorporation into updated functions and values assessment | Atlantic Ecology Lab? | A. TBD<br>B. TBD | A. TBD<br>B. TBD |
| 11 | Presumptive cap design starting point - Silver Lake (Pittsfield MA) | - similar conditions to NBH<br>- post-cap data indicates highly successful performance | - EPA presents case study | - bench scale study (column tests) using Aerovox sediments and Silver Lake cap design - would help evaluate gas ebulition | Dave Dickerson + Dan Groher | | TBD |

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34
88
93
232

262 - 342

Steve - issue notes in ~2 days
- 2 weeks for more detailed