

**Mountain View Corridor Air Working Group
Meeting Minutes
November 4, 2013
Hunter High School**

Attendees:

- Cameron Cova – Breathe Utah
- Kathy Van Dame – Wasatch Clean Air Coalition
- Michelle Hofmann - MD, Faculty at Univ. of Utah, Breathe Utah, Governor's UCAIR Bd.
- Bo Call – Air Monitoring Section Manager, Utah Division of Air Quality
- Lee Logston – Planner, West Valley City
- G.J. LaBonty – Utah Transit Authority
- Linda Hansen - PTA
- David Gourley – Asst. Supt. of Support Services, Granite School District
- Steve Forbes – Construction Services Manager, Granite School District
- Jay Parks – HVAC foreman, Granite School District
- Keith Bradshaw – Granite School District
- John Welburn – Principal, Hunter High
- Craig Stauffer – Asst. Principal, Hunter High
- Paul Roberts (phone) – Sonoma Technology, Inc.
- Jerry Ludwig (phone) – Environmental Health & Engineering, Inc.
- Andy Neff – The Langdon Group (facilitator)
- Jennifer Tays – The Langdon Group (co-facilitator)

Minutes:

- **Review / Approval of 10/14/2013 Meeting Minutes**
 - Approved
- **Review / Discuss 10/14/2013 Action items**
 - All completed
- **Presentation by Paul Roberts and Jerry Ludwig**
 - Schedule
 - Send presentation by Dec. 11 for AWG review prior to meeting
 - Presentation on Dec. 18 (air quality and mitigation material)
 - Draft report sent out end of Jan. 2014
 - Comment period
 - AWG conference call Feb. 24 to give feedback
 - Final report mid-March 2014
 - Study Objectives
 - Identify impacts, make mitigation recommendations
 - Background AQ monitoring results and knowledge of other near-roadway studies will form basis for recommendations

- Two components of report
 - Background AQ monitoring results
 - Mitigation approach to HVAC components at subject schools
- Topics for Presentation and Final Report: Air Quality
 - Background AQ data during 2011-12 year
 - PM 10 – need to understand baseline mass to understand loading on school HVAC system (PM 10 is primary mass contributor)
 - Black carbon – main health effect in many studies
 - Wind flow at 5 schools – affects how pollution affects school
 - Flow patterns are similar at all subject schools
 - Comparisons with UDAQ data
 - Implications for pre-construction impact
 - Proposed design of post-construction AQ monitoring
- Topics for Presentation and Final Report: Mitigation
 - Mitigation objectives
 - Provide better filtration through HVAC system
 - Identify level of mitigation to achieve
 - Timing for implementation
 - Background on mitigation and HVAC systems in schools
 - Summary of recommendations and costs (both initial and operating costs)
 - Maintenance cost for 30 years included in cost estimates
 - Discussion of cost uncertainties (inflation)
 - Costs for electricity and new filters
 - Trade-offs regarding how to best spend the mitigation resources (dollars)
- Topics for Discussion Nov. 4
 - Presentations to AWG on Dec. 18 versus presentations by AWG to the public
 - Presentations for others facing same issues
 - Can we get ballpark filtration cost numbers?
 - Can prepare slides with general approach and rough ballpark range estimates (cost of filtration per square foot)
 - Age of structure determines mitigation costs
 - Can provide qualitative range of costs for various sizes of schools
 - AWG principles and objectives should be considered
 - How does distance affect pollution, and what are passive things (like vegetation) that can be done to reduce pollution?
 - Have sent information before and can have additional discussion
 - Controlling when children are in or outside has biggest effect
 - Paul's presentation in LA (Technology Forum on Near-Roadway Mitigation & Technologies) will be webcast and posted online:

<http://www.aqmd.gov/tao/ConferencesWorkshops/techforum.htm>

- Can we get more information on health effects and mitigation for temperature inversion conditions (i.e., when to not let children outside when there is an inversion)?
 - Guidelines are available through the EPA and UDAQ
- AWG questions on topics not covered by current study; how to provide AWG resources on these topics
 - Other mitigation actions that could be taken
 - Ultra-fine particles
 - Potential impacts and mitigation at other schools
 - Study results may extrapolate to schools with similar designs
 - Provide health benefit to all schools but not “Cadillac”
 - Sometimes just changing filters with existing equipment can provide a benefit for minimal cost
 - School board will make the decision, which is largely financial
 - How is cost analysis determined?
 - Filters are changed when pressure increases
 - Frequency of filter changes will be part of recommendation
- MVC is funded from 5400 South to 4100 South (section past Hillside Elementary and Hunter High to just north of Hunter High)
 - Some construction activities are expected to begin in early 2015, with major construction activities starting in the summer of 2015 and completion planned for end of 2016.
- **Next Meeting**
 - Wednesday, Dec. 18 @ 9 a.m. – 1 p.m., Granite School District

*Following the AWG meeting, the group went on a driving tour of the schools that are part of the study (AQ monitoring and mitigation): Hunter High, Hunter Jr. High, Hillside Elementary, Whittier Elementary and West Valley Elementary

School Tour Observations:

- Hillside Elementary is very near the MVC alignment. Currently, a replacement playground (from land lost to MVC) is under construction on the corridor side (east side) of school. The existing parking lot on the west side of the school is further from the corridor. Is it an option to move the parking to the east and playground to the west to reduce student exposure?
- Some question of when the alignment was changed (before or after the ROD), but as currently aligned, one school (Silver Hills Elementary) not in the five covered by the ROD may be impacted (within 600 m of the MVC alignment).
 - Air quality monitoring and mitigation analyses have focused on the five schools identified in the ROD.

- Hunter Junior High (400 m) & West Valley Elementary (400 m) are outside the 200 meter line, which Michelle notes, "Ultrafine particles, black carbon and carbon monoxide drop to near-background levels at 200 m (650 ft) downwind from major roadways and are indistinguishable from background concentrations at 300 m downwind."
 - Paul noted: The 200 m and 300 m distances mentioned by Michelle is for daytime conditions with good atmospheric mixing. For nighttime conditions, the distance to reach background is significantly longer. Some suggest this distance may be as much as 2000-3000 m. Note that daytime conditions with light winds and a low-altitude inversion may produce similar results to nighttime conditions. Concentrations of pollutants from the roadway decrease with distance under either conditions.

Action Items:

- Schedule AWG conference call for Feb. 24 @ 1 p.m. – Andy & Jennifer
- Consider inviting other school principals to Dec. meeting - Granite School District

AWG meeting November 4, 2013

- Presentation and Report Schedule
- Air Quality and Mitigation Study Objectives
- Topics for Presentations and Reports
- Additional Topics of Interest to AWG

Presentation and Report Schedule

Original Schedule

Milestone	Schedule
Modified contract start	By July 15, 2013
Work by HVAC subcontractors	July 22, 2013 to September 30, 2013
Buffer for interaction with HVAC subcontractors	September 30, 2013 to October 31, 2013
Draft report sent to AWG for review	December 31, 2013
Presentation of air quality and mitigation results	January 31, 2014
Comments received from AWG	February 17, 2014
Final report, including comments addressed	March 17, 2014
Contract end	March 31, 2014

Revised, Proposed Schedule

Milestone	Schedule
Contract modification start	July 9, 2013
Work by HVAC subcontractors	July 22, 2013 to September 30, 2013
Buffer for interaction with HVAC subcontractors	September 30, 2013 to October 31, 2013
Draft presentation sent to AWG for review	December 11, 2013
Presentation of air quality and mitigation results	December 18, 2013
Draft report sent to AWG for review and comments	January 31, 2014
Comments received from AWG	February 28, 2014
Final report, including comments addressed	March 17, 2014
Contract end	March 31, 2014

MVC Air Quality Study

Study Objectives:

- Identify impacts of MVC on near-road AQ
- Make recommendations on mitigating these impacts, especially at 5 schools nearby.

Topics for Presentations and Final Reports: Air Quality

- Background AQ during 2011-2012 year
- Wind flow at the 5 schools
- Comparisons with UDAQ data
- Implications for pre-construction impact
- Proposed design of post-construction AQ monitoring

Topics for Presentations and Final Reports: Mitigation

- Mitigation objectives
- Background on Mitigation and HVAC systems in schools
- Summary of recommendations and costs
- Discussion of high cost treatment areas.
- Discussion of cost uncertainties.
- Tradeoffs regarding how to best spend the mitigation resources (dollars).

Topics for Discussion Nov. 4

- Presentations to AWG on Dec 18 versus presentations by AWG to the public
- AWG questions on topics not covered by current study...how to provide AWG resources on these topics
 - Other mitigation actions that could be taken
 - Ultra-fine particles
 - Potential impacts & mitigation at other schools
 - Other issues?