APPENDIX U

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MEMORANDUM

To: **Stuart Mesinger**

From: **Philip J. Grealy, Ph.D., P.E.**
Richard G. D'Andrea, P.E., PTOE

Date: **March 29, 2017**

Re: **Hudson Heritage**
Air Quality: Substantive Technical Review
MC Project No. 13002323A

The following items are in response to the review memorandum from AKRF, Inc., dated February 10, 2017. The items are numbered according to the review comments.

1. **Global** Correct all pollutant names to use subscripts (O_3, NO_2, SO_2, $PM_{2\ 5}$, and PM_{10}).

Response: ***The pollutant names as contained in the Air Quality Technical Report contained in Appendix BB of the DEIS correctly utilized subscripts for all pollutant names. The DEIS Air Quality Chapter (Chapter 3.19) has not been revised as part of this FEIS, however the following provides a listing of all pollutants discussed in the Chapter with the abbreviation used and the correct abbreviation.***

Pollutant	*DEIS Chapter Abbreviation*	*Correct Abbreviation*
Carbon Monixide	*CO*	*CO*
Inhalable Particles *- 10 mm or less* *- 2.5 mm or more*	 *PM10* *PM2.5*	 *PM_{10}* *$PM_{2.5}$*
Lead	*Pb*	*Pb*
Nitrogen Dioxide	*NO2*	*NO_2*
Ozone	*O3*	*O_3*
Sulfur Dioxide	*SO2*	*SO_2*

2. **Page 261** Revise discussion of Section B, "Future with the Proposed Project." Existing development at the Project Site is assumed to remain unchanged from existing conditions in the No Build Condition. Therefore air quality is expected to be similar to the existing conditions.

Response: ***As a clarification for Section B of Chapter 3.19 of the DEIS (Page 261), the under future No-Build conditions, the existing development at the project site is assumed to remain unchanged from its current condition. Therefore future air quality, without the proposed development, is expected to be similar to the existing conditions.***

3. **Page 262** Move discussion of the assessment of construction activities to the end or Section C.

Response: ***The discussion of the assessment of construction activities was presented in a logical manner at the beginning of Section C as the construction activity impacts would occur prior to the full development impacts. As described on Page 262 of the DEIS. Therefore the Applicant believes that this discussion should not be moved.***

4. Table 3.19.2 Include notes.

Response: ***Table 3.19.2 has been revised below with appropriate notes.***

DEIS Table 3.19.2
Intersection Levels of Service (LOS)

ID No.	Type	Intersections	LOS, 2035 Build Conditions		
			AM Peak	PM Peak	Midday Peak
1	S	US Route 9 & Culinary Institute of America	A	B	A
2	S	US Route 9 & W. Dorsey Lane/Culinary Institute of America	B	B	B
3	U	US Route 9 & River Point Road	c	b	c
4	U	US Route 9 & Big Meadow Lane	c	e	c
5	S	US Route 9 & HudsonView Drive	NA	NA	NA
6	S	US Route 9 & Winslow Gate Road	A	B	B
7	S	US Route 9 & Marist Drive/Mid Hudson Plaza	A	B	B
8	S	Fulton Street & US Route 9	B	**E**	**D**
9	S	US Route 9 & Marist Drive/NYS Routre 9G	C	**F**	C
10	S	NYS Route 9oG (Violet Avenue) & Pendell Road	B	C	C
11	U	NYS Route 9G (Violet Avenue) & East Cedar Street	b	b	a
12	S	NYS Route 9G (Violet Avenue) & Fulton Avenue	B	B	A
13	S	NYS Route 9G (Violet Avenue) & West Cottage Road/Cottage Road	B	B	B
14	S	NYS Route 9G (Violet Avenue) & East Dorsey Lane/West Dorsey Lane	C	C	C
15	S	US Route 9 & Clear Water Drive (North)	A	**D**	D
16	U	US Route 9 & Clear Water Drive	c	b	b
17	S	US Route 9 & North Road	B	C	C
18	U	North Road & West Cedar Street	b	**f**	c
19	S	NYS Route 9G & North Road	A	B	A

Notes: S= signalized intersection; U=unsignalized intersection
For unsignalized intersections, the approach LOS for critical movements is shown by a lower case letter.
Boldface type indicates intersections and peak periods subject to further screening.
Source: Maser Consulting, November 2015.

5. **Table 3.19.2** Format table notes to clearly distinguish between chapter text and table notes.

Response: ***Comment noted. See revised Table 3.19.2 above.***

6. **Table 3.19.2** No intersections or time periods are shown to be subject for further screening. Notes refer to the use of boldface type as an indicator.

Response: ***Comment noted. See revised Table 3.19.2 above, which includes bold face type for intersections subject for further screening which include U.S.***

Route 9 & Fulton Street, U.S. Route 9 & Marist Drive/Mid-Hudson Plaza, U.S. Route 9 & Clear Water Drive and North Road & West Cedar Street.

7. **Table 3.19.2** Revise Los for Intersection 3 during the PM Peak Period from "B" to "b" to be consistent with the air quality assessment in Appendix BB.

   Response: Comment noted. See revised Table 3.19.2 above.

8. **Page 263** Use bullet points to clarify the capture screening criteria.

   Response: Comment noted. The discussion of the capture screening analysis has been revised below for clarification.

   Capture Screening Criteria

   Signalized intersections with an overall LOS D or worse, as well as unsignalized intersections projected to experience LOS d or worse on a minor approach, are further screened by the following NYSDOT capture screening criteria:

   - ***A 10% or more increase in traffic volume,***
   - ***A reduction of 10% (or more) in the source-receptor distance, (i.e., the straight line distance between the edge of the travel lane closest to the receptor and that point of the receptor closest to the roadway),***
   - ***A decrease of 20% (or more) in speed, where the existing speed is 48 km/h (30 mph) or less,***
   - ***An increase in the number of queued lanes at an intersection,***
   - ***A 10% or more increase in vehicular emissions due to changes in speed, traffic mix, etc., and,***
   - ***Potential impacts on an intersection evaluated for CO in the State Implementation Plan (SIP).***

9. **Page 264** Table 3.19.3 does not show the traffic volume increases at any intersection. Include additional table to show this information for all intersections that were considered for further analysis under the NYSDOT Capture Screening Criteria.

Response: ***Table 3.19.3 has been revised below to include the 2035 No-Build and Build Traffic Volumes by approach and traffic volume increases for each location.***

Table 3.19.3

Intersections Subject to Screening for Threshold Volume Increase

ID No.	Type	Intersection		Approach Volumes EB	WB	NB	SB	TOTAL	Maximum Approach Volume	NYSDOT Volume Threshold
PEAK WEEKDAY PM PERIOD										
4	U	US Route 9 & Big Meadow Lane	2035 No-Build Conditions	N/A	47	1,565	1,196	2,808	1,565	8,000
			2035 Build Conditions	N/A	47	1,705	1,354	3,106	1,705	
			% Difference	N/A	0.0%	8.9%	13.2%	10.6%	8.9%	
8	S	US Route 9 & Fulton Street	2035 No-Build Conditions	N/A	573	1,699	1,157	3,429	1,699	4,000
			2035 Build Conditions	N/A	604	2,196	1,601	4,401	2,196	
			% Difference	N/A	5.4%	29.3%	38.4%	28.3%	29.3%	
9	S	US Route 9 & Marist Drive/NYS Route 9G	2035 No-Build Conditions	287	699	1,656	1,497	4,139	1,656	4,000
			2035 Build Conditions	287	699	1,980	1,808	4,774	1,980	
			% Difference	0	0.0%	19.6%	20.8%	15.3%	19.6%	
15	S	US Route 9 & Clear Water Drive (North)	2035 No-Build Conditions	6	N/A	1,564	1,192	2,762	1,564	4,000
			2035 Build Conditions	6	340	1,835	1,350	3,531	1,835	
			% Difference	0	N/A	17.3%	13.3%	27.8%	17.3%	
18	U	North Road & West Cedar Street	2035 No-Build Conditions	N/A	453	646	N/A	1,099	646	8,000
			2035 Build Conditions	N/A	538	731	N/A	1,269	731	
			% Difference	N/A	18.8%	13.2%	N/A	15.5%	13.2%	
PEAK SATURDAY PERIOD										
4	U	US Route 9 & Big Meadow Lane	2035 No-Build Conditions	N/A	67	1,177	1,113	2,357	1,177	8,000
			2035 Build Conditions	N/A	67	1,366	1,304	2,737	1,366	
			% Difference	N/A	0.0%	16.1%	17.2%	16.1%	16.1%	
8	S	US Route 9 & Fulton Street	2035 No-Build Conditions	N/A	382	1,264	1,087	2,733	1,264	4,000
			2035 Build Conditions	N/A	418	1,840	1,687	3,945	1,840	
			% Difference	N/A	9.4%	45.6%	55.2%	44.3%	45.6%	
9	S	US Route 9 & Marist Drive/NYS Route 9G	2035 No-Build Conditions	206	365	1,149	1,279	2,999	1,279	4,000
			2035 Build Conditions	206	365	1,525	1,748	3,844	1,748	
			% Difference	0	0.0%	32.7%	36.7%	28.2%	36.7%	
15	S	US Route 9 & Clear Water Drive (North)	2035 No-Build Conditions	9	N/A	1,231	1,132	2,372	1,231	4,000
			2035 Build Conditions	9	446	1,521	1,323	3,299	1,521	
			% Difference	0	N/A	23.6%	16.9%	39.1%	23.6%	
18	U	North Road & West Cedar Street	2035 No-Build Conditions	N/A	241	449	N/A	690	449	8,000
			2035 Build Conditions	N/A	341	549	N/A	890	549	
			% Difference	N/A	41.5%	22.3%	N/A	29.0%	22.3%	

Notes:

1. *NYSDOT Volume Threshold applies to each approach, not the combined intersection total.*
2. *Volume Thresholds obtained from Tables 3a, 3b and 3c from the 2001 NYSDOT Environmental Procedures Manual, Chapter 1.1.*
3. *Unsignalized intersection Volume Threshold obtained from Table 3b - Peak Hour Directional Traffic Volume Thresholds for Two-Way Free Flow Sites.*
4. *Signalized intersection Volume Threshold obtained from Table 3c: Peak Hour Traffic Volume Thresholds at any Applicable Approach for Signalized Intersections based on a free flow emission facot fo 2.5 to 5.0 grams/vehicle-mile and a queue (idle) emission factor of up to 100 grams per vehicle hour.*

10. Table 3.19.3 The Table does not show comparison of peak period traffic volumes to NYSDOT Volume Thresholds. Include thresholds with notes to indicate how they were determined.

Response: ***The comparison of the peak period traffic volumes to the NYSDOT Volume thresholds was provided in Table 3.19.4 of the DEIS. This information has now been incorporated into the revised Table 3.19.3 above.***

11. **Table 3.19.3** The NYSDOT Volume Thresholds are to be compared to approaches, not intersections. Remove intersection total volumes and replace with maximum approach volume.

Response: ***The maximum approach volumes have been added to the revised Table 3.19.3 provided above for comparison to the NYSDOT Volume Thresholds.***

12. **Page 265** No intersections show an exceedance of NYSDOT Volume Thresholds and therefore no mobile source analysis was performed. Revise discussion of results.

Response: ***As shown in the revised Table 3.19.3 above, none of the intersections exceed the NYSDOT Volume Threshold for an unsignalized or signalized intersection and therefore no further analysis was required.***

13. **Page 265** Remove second paragraph and Table 3.19.4. Incorporate information into Table 3.19.3.

Response: ***The information summarized in Table 3.19.4 has now been incorporated in to the revised Table 3.19.3 above.***

14. Page 266 Include discussion of fine particulate screening that was done for the air quality assessment in Appendix BB.

Response: ***The NYSDOT EPM section addressing screening for fine particulates was rescinded in December 2012. Currently, the NYSDOT screening for fine particulates from mobile sources is based on EPA's "Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in $PM_{2.5}$ and***

PM_{10} Nonattainment and Maintenance Areas." The traffic generated by the project would be primarily gasoline-powered passenger vehicles. It would not generate a significant number of diesel vehicles or increase congestion at locations with a significant number of diesel vehicles. The project would include improvements that would improve traffic flow and reduce congestion. Therefore, the project would not be of local air quality concern and further analysis of PM hotspots is not warranted for the off-site intersections, roadway segments, or parking facilities.

15. Page 266 Include discussion of the assessment of the HVAC stationary source of the project.

Response: ***A discussion of the assessment of the HVAC stationary sources of the project is provided on Page 266 of the DEIS below Table 3.19.4. This discussion has been repeated below for ease of reference.***

The HVAC (heating, ventilating and air conditioning) units for the Project are a potential source of pollutants, but it is anticipated that the equipment, which will not be specified until building design advances, would all comply with Federal and State regulations for efficiency and required emission levels. Emissions from HVAC sources would therefore not cause significant air quality impacts on the Site or to surrounding land uses.

16. Page 266 Since no significant air quality impact is identified; there are no mitigation measures required. Incorporate Section D into the discussion of construction activities as control measures that will be implemented during the construction of the project.

Response: ***While labeled as "Proposed Mitigation" as noted, the items listed in Section D of Chapted 3.19 of the DEIS (Page 266) are control measures to be implemented during construction of the project. These have been listed below for convenience.***

The dust and air quality impacts associated with construction of the Project would be mitigated through various measures to minimize fugitive dust particles, including:

- ***Placement of any removed topsoil into a topsoil storage area which would be seeded with quick cover vegetation to prevent erosion.***
- ***Watering all exposed soil and rapidly stabilizing the regraded areas with topsoil, loam and/or seeding.***
- ***Wetting of the roadways with water as needed.***
- ***Maintenance of a maximum on-site speed limit of 15 mph to minimize pulverization and lifting of surface soil in the air current wake of heavy equipment.***
- ***Upon completion of building construction, upgrading all roads with pavement and drainage structures.***
- ***Additional measures that would be implemented at the Project Site to mitigate fugitive dust impacts are discussed in depth in the Geology section of the DEIS.***

It should be noted that no significant adverse air quality impact are anticipated as a result of the Project generated traffic, HVAC systems or construction activities and therefore no mitigation measures are required for these impacts beyond the control measures for construction activities described above. .