

GENERAL CONFORMITY – RECORD OF NON-APPLICABILITY

Project/Action Name: **Joint Base Myer-Henderson Hall Proposed Construction of a New Perimeter Ornamental Security Fence**

Project/Action Point of Contact: Richard P. LaFreniere, Chief
Environmental Management Division, DPW
Joint Base Myer-Henderson Hall
111 Stewart Road, Building 321
Fort Myer, Virginia 22211-1199

Begin Date (Anticipated): October 2018 **End Date (Anticipated): March 2020**

General Conformity under the Clean Air Act, Section 176 has been evaluated for the project described above according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to this project/action because the total project emissions in tons per year of pollutants for which the project area is in nonattainment or maintenance of National Ambient Air Quality Standards have been estimated to be:

Total Project Emissions

Volatile Organic Compounds (VOC)	8.1 tpy
Nitrogen Oxides (NO _x)	80.9 tpy
Carbon Monoxide	54.8 tpy

Conformity Threshold Rate

VOC	50 tpy
NO _x	100 tpy
CO	100 tpy

Supporting documentation and emissions estimates are attached.

SUPPORTING DOCUMENTATION

Description of Project/Action:

The Proposed Action will consist of construction of perimeter security ornamental fence at the Joint Base Myer-Henderson Hall (JBM-HH). The Proposed Action is summarized in Table 1 below.

Table 1 – JBM-HH Perimeter Security Fence Construction Project

Project	Description	Proposed Action Impacts	Air Impacts From
1	Construction of a new perimeter ornamental security fence	Under the Proposed Action, approximately 10,000 linear feet of fence would be added or improved along the entire length of the JBM-HH boundary with ANC. The security fence begins to the north at Wright Gate, continues past the Millennium Site, and ends at the intersection of Hobson Drive and Southgate Road. The fence alignment will primarily follow the property line between JBH and ANC paralleling the historic boundary wall for the majority of its alignment with offsets up to 50 feet. Slight realignments may occur which will require portions of the existing gates and fence to be removed and tied into the new fence.	Construction Equipment Surface Disturbance Vehicle Transport

Air Emission Input Parameters and Assumptions:

A construction schedule has not yet been finalized, however, anticipated project emissions have been conservatively estimated over a worst-case year. Based on information available at the time of this RONA, it is important to note that projected changes are re-evaluated on a continuing basis. Best engineering judgment has been applied to quantify the emissions inventory for combustion equipment types, quantity, size, usage, and emission factors. The same engineering judgment was applied to all other project-specific parameters for input parameters not otherwise defined in the current Proposed Action plan.

Project Duration

Construction crews and equipment operations were estimated to be active 270 days a year and emissions were calculated for the worst-case annual emissions.

Nonroad Construction and Demolition Emissions

The nonroad combustion equipment inventory includes a variety of combustion equipment as predicted may be operated under the Proposed Action activities. Table 3 lists anticipated non-road equipment types, operation conditions, and emission factors. Nonroad equipment emission factors (Table 5) were based on the Sacramento Metropolitan Air Quality Management District, Road Construction Emissions Model, Version 8.1.0. It is anticipated that the total operating hours per year for any of the listed equipment will not exceed the estimated hours for the Proposed Action.

Vehicular Transport Emissions

The vehicular transport fleet includes 5 passenger gasoline vehicles, 10 gasoline pickup trucks, and 10 heavy duty diesel trucks each travelling approximately 200 miles per day for 270 days a year. Emission calculations for the annual vehicular fleet operations are in Table 4. It is anticipated that the total annual vehicle miles traveled for any vehicle type will not exceed the estimated mileages for the Proposed Action.

Wind Erosion for Disturbed Areas

The area of disturbed land is anticipated to be about 23 acres per year. Emissions were estimated based on AP-42 Chapter 11.9 for Western Surface Coal Mining from wind erosion and maintenance operations (see Table 5). The potential for wind erosion emissions were estimated to be 8.7 tpy of Total Suspended Particulates (TSP). PM₁₀ and PM_{2.5} are assumed to be same as TSP (worst case assumption).

Ongoing Operation Emissions and Assumptions

Once the construction, demolition and improvement activities are complete, the project emissions will cease. There are no ongoing annual operating plans for the Proposed Action, therefore no ongoing activities and/or project emissions are anticipated.

Air Quality Impact Results:

The Proposed Action is in Arlington County and is within the National Capital Interstate Air Quality Control Region. The general conformity requirements and thresholds only apply to criteria pollutants in the ROI which are in nonattainment or maintenance of the NAAQS. Therefore, *de minimis* levels for the project area are 100 tons per year for NO_x and 50 tons per year for VOC as established for nonattainment areas located in an O₃ transport area. The threshold for CO is 100 tons per year. For those pollutants in attainment, the New Source Review (NSR) thresholds are 250 tons per year. For planning purposes, these thresholds are used in the absence of applicable *de minimis* thresholds.

Air Quality Impact Results for the Worst-Case Annual Proposed Action Emissions

Table 2: Summary of Annual Proposed Action Emissions

Estimated Emissions	Emissions (tons/year)					
	VOC	CO	NO _x	SO ₂	PM ₁₀	PM _{2.5}
Proposed Action Emissions	8.1	54.8	80.9	0.105	8.7	8.7
<i>de minimis</i> /New Source Review threshold	50	100	100	250	250	250
Exceeds <i>de minimis</i> or NSR threshold?	No	No	No	No	No	No

Table 3: Combustion Emission for NONROAD Equipment

Equipment Type	Estimated NONROAD Inventory					Emission Factor (grams/hp/hour) ¹									Emission Rate (pounds/year) ²									Annual Emissions (tons/yr) ³								
	No. Units	HP	hr/day	day/yr	hr/yr	VOC	CO	NOX	SO2	PM10	PM 2.5	CO2	CH4	N2O	VOC	CO	NOX	SO2	PM10	PM2.5	CO2	CH4	N2O	VOC	CO	NOX	SO2	PM10	PM2.5	CO2	CH4	N2O
Air Compressors	2	120	8	270	4,320	0.60	3.74	4.05	0.01	0.30	0.30	568.30	0.05	0.00	689	4,279	4,635	6.9	347	347	649,497	61.7	4.9	0.34	2.14	2.32	3.4E-03	0.17	0.17	325	3.09E-02	2.44E-03
Cement and Mortar Mixers	2	25	8	270	4,320	0.75	2.44	4.50	0.01	0.21	0.21	568.30	0.07	0.00	178	581	1,074	1.7	49	49	135,312	16.0	1.1	0.09	0.29	0.54	8.3E-04	0.02	0.02	68	7.98E-03	5.66E-04
Concrete/Industrial Saws	2	50	8	270	4,320	1.03	4.77	4.49	0.01	0.28	0.28	568.30	0.09	0.00	491	2,270	2,142	3.3	132	132	270,623	44.3	2.3	0.25	1.13	1.07	1.7E-03	0.07	0.07	135	2.21E-02	1.13E-03
Crawler Tractors	2	250	8	270	4,320	0.40	1.65	5.29	0.00	0.20	0.18	491.61	0.15	0.00	948	3,937	12,611	11.7	476	438	1,170,511	364.3	10.2	0.47	1.97	6.31	5.8E-03	0.24	0.22	585	1.82E-01	5.09E-03
Crushing/Proc. Equipment	2	175	8	270	4,320	0.43	3.23	3.05	0.01	0.16	0.16	568.30	0.04	0.00	712	5,390	5,088	10.0	268	268	947,182	63.3	7.1	0.36	2.70	2.54	5.0E-03	0.13	0.13	474	3.17E-02	3.56E-03
Excavators	2	750	8	270	4,320	0.19	1.22	2.27	0.00	0.08	0.07	487.65	0.15	0.00	1,349	8,740	16,205	34.3	542	499	3,483,296	1,084	30.5	0.67	4.37	8.10	1.7E-02	0.27	0.25	1,742	5.42E-01	1.53E-02
Forklifts	2	120	8	270	4,320	0.57	3.86	5.02	0.00	0.40	0.37	489.87	0.15	0.00	648	4,409	5,739	5.6	457	421	559,856	174.3	4.9	0.32	2.20	2.87	2.8E-03	0.23	0.21	280	8.71E-02	2.44E-03
Generator Sets	2	120	8	270	4,320	0.46	3.42	3.75	0.01	0.24	0.24	568.30	0.04	0.00	527	3,906	4,294	6.9	273	273	649,496	46.9	4.9	0.26	1.95	2.15	3.4E-03	0.14	0.14	325	2.34E-02	2.44E-03
Graders	2	175	8	270	4,320	0.66	3.71	6.60	0.00	0.37	0.34	497.38	0.15	0.00	1,102	6,183	11,022	8.2	619	569	828,976	258.0	7.1	0.55	3.09	5.51	4.1E-03	0.31	0.28	414	1.29E-01	3.56E-03
Other Construction Equipment	2	175	8	270	4,320	0.44	3.26	4.75	0.00	0.25	0.23	487.99	0.15	0.00	727	5,439	7,935	8.0	417	384	813,324	253.2	7.1	0.36	2.72	3.97	4.0E-03	0.21	0.19	407	1.27E-01	3.56E-03
Other Material Handling Equipment	2	175	8	270	4,320	0.33	3.22	3.33	0.00	0.17	0.16	490.58	0.15	0.00	544	5,363	5,561	8.2	288	265	817,653	254.5	7.1	0.27	2.68	2.78	4.1E-03	0.14	0.13	409	1.27E-01	3.56E-03
Pavers	2	120	8	270	4,320	0.54	3.66	5.02	0.00	0.38	0.35	488.18	0.15	0.00	612	4,183	5,744	5.5	429	395	557,931	173.7	4.9	0.31	2.09	2.87	2.7E-03	0.21	0.20	279	8.69E-02	2.44E-03
Paving Equipment	2	120	8	270	4,320	0.45	3.61	4.27	0.00	0.30	0.28	492.12	0.15	0.00	514	4,123	4,887	5.6	345	318	562,431	175.1	4.9	0.26	2.06	2.44	2.8E-03	0.17	0.16	281	8.75E-02	2.44E-03
Plate Compactors	2	15	8	270	4,320	0.66	3.47	4.14	0.01	0.16	0.16	568.30	0.06	0.00	94	496	592	1.1	23	23	81,187	8.4	0.7	0.05	0.25	0.30	5.7E-04	0.01	0.01	41	4.21E-03	3.39E-04
Rollers	1	120	8	270	2,160	0.48	3.61	4.65	0.00	0.32	0.29	492.21	0.15	0.00	275	2,063	2,661	2.8	183	168	281,269	87.5	2.4	0.14	1.03	1.33	1.4E-03	0.09	0.08	141	4.38E-02	1.22E-03
Rough Terrain Forklifts	2	120	8	270	4,320	0.22	3.27	2.84	0.00	0.14	0.13	491.21	0.15	0.00	254	3,737	3,256	5.6	155	143	561,394	174.7	4.9	0.13	1.87	1.63	2.8E-03	0.08	0.07	281	8.74E-02	2.44E-03
Rubber Tired Dozers	2	250	8	270	4,320	0.67	2.51	7.21	0.00	0.35	0.32	493.63	0.15	0.00	1,593	5,980	17,184	11.7	834	768	1,175,339	366.0	10.2	0.80	2.99	8.59	5.8E-03	0.42	0.38	588	1.83E-01	5.09E-03
Rubber Tired Loaders	2	250	8	270	4,320	0.33	1.35	4.13	0.00	0.14	0.13	487.90	0.15	0.00	794	3,206	9,850	11.4	334	307	1,161,693	361.7	10.2	0.40	1.60	4.92	5.7E-03	0.17	0.15	581	1.81E-01	5.09E-03
Scrapers	2	500	8	270	4,320	0.37	2.83	4.57	0.00	0.18	0.17	490.77	0.15	0.00	1,758	13,467	21,780	23.3	857	789	2,337,057	727.6	20.4	0.88	6.73	10.89	1.2E-02	0.43	0.39	1,169	3.64E-01	1.02E-02
Signal Boards	1	50	8	270	2,160	1.02	4.66	4.43	0.01	0.27	0.27	568.30	0.09	0.00	242	1,109	1,055	1.7	64	64	135,312	21.7	1.1	0.12	0.55	0.53	8.3E-04	0.03	0.03	68	1.08E-02	5.66E-04
Skid Steer Loaders	1	120	8	270	2,160	0.22	3.28	2.86	0.00	0.14	0.13	490.09	0.15	0.00	123	1,875	1,636	2.8	80	73	280,058	87.2	2.4	0.06	0.94	0.82	1.4E-03	0.04	0.04	140	4.36E-02	1.22E-03
Surfacing Equipment	1	250	8	270	2,160	0.24	1.23	3.99	0.00	0.11	0.10	494.14	0.15	0.00	287	1,469	4,755	5.8	134	123	588,271	183.1	5.1	0.14	0.73	2.38	2.9E-03	0.07	0.06	294	9.15E-02	2.54E-03
Sweepers/Scrubbers	2	120	8	270	4,320	0.60	3.88	5.14	0.00	0.43	0.39	492.55	0.15	0.00	685	4,436	5,877	5.6	489	450	562,928	175.2	4.9	0.34	2.22	2.94	2.8E-03	0.24	0.23	281	8.76E-02	2.44E-03
Tractors/Loaders/Backhoes	2	120	8	270	4,320	0.42	3.69	4.15	0.00	0.29	0.27	494.12	0.15	0.00	480	4,219	4,754	5.6	336	309	564,723	175.8	4.9	0.24	2.11	2.38	2.8E-03	0.17	0.15	282	8.79E-02	2.44E-03
TOTAL															15,63	100,86	160,34	193	8,134	7,58	19,175,32	5,338	164	7.8	50.4	80.2	0.097	4.07	3.79	9,588	2.7	0.1

Notes:

1. OFFROAD EMISSION FACTORS, SacMetro AQMD, Road Construction Emissions Model, Version 8.1.0, 2016. Emission factors for year 2018 are used.
2. Conversion of 453.59 grams per pound.
3. Conversion of 2000 pounds per ton.

Table 4: On-Highway Vehicular Emissions Inventory

Pollutant	Emission Factors (g/mile) ¹			No. Cars ²	No. Trucks ²	No. Heavy Duty Trucks ²	Miles per Vehicle per day ²	Days/yr ²	Tons/yr
	Passenger Cars	Pickup Trucks	Heavy Duty Trucks						
VOC	0.17	0.28	0.077	5	10	10	200	270	0.26
CO	2.9	4.9	1.01	5	10	10	200	270	4.40
NOX	0.12	0.31	0.94	5	10	10	200	270	0.78
SO2	0.0044	0.0057	0.0070	5	10	10	200	270	0.01
PM10	0.0076	0.013	0.014	5	10	10	200	270	0.02
PM2.5	0.0070	0.012	0.014	5	10	10	200	270	0.02
CO2 ³	368.0	501.0	1456.0	5	10	10	200	270	1274.43
CH4 ⁴	0.017	0.016	0.033	5	10	10	200	270	0.03
N2O ⁴	0.0036	0.0066	0.0134	5	10	10	200	270	0.01

Notes:

1. Average annual emissions and fuel consumption for gasoline-fueled passenger cars (gasoline) and light trucks (gasoline) and short haul trucks (diesel). Emission rates are referenced from the Argonne National Laboratory Report, Updated Emission Factors of Air Pollutants from Vehicle Operations in GREET Using MOVES (ANL 2013). Emission Factors are based on Model Year 2015 vehicles.
2. Estimated annual vehicle fleet.
3. Emission Factor is based on Table 8 of the EPA GHG Inventory, last modified in April 2014. Emissions factors for the model years 2009-present are used
4. Direct Emissions from Mobile Combustion Sources, EPA GHG Guidance, January 2016

Table 5: NONROAD Emission Factors

Based on year 2018		g/hp/hr	g/hp/hr	g/hp/hr	g/hp/hr	g/hp/hr	g/hp/hr	g/hp/hr	g/hp/hr	g/hp/hr
Equipment	MaxHP	VOC	CO	NOX	SOX	PM10	PM2.5	CO2	CH4	N2O
Air Compressors	120	0.603	3.744	4.050	0.006	0.304	0.304	568.300	0.054	0.004
Cement and Mortar Mixers	25	0.749	2.440	4.504	0.007	0.205	0.205	568.299	0.067	0.005
Concrete/Industrial Saws	50	1.032	4.766	4.492	0.007	0.277	0.277	568.299	0.093	0.005
Crawler Tractors	250	0.398	1.654	5.290	0.005	0.200	0.184	491.606	0.153	0.004
Crushing/Proc. Equipment	175	0.427	3.234	3.049	0.006	0.161	0.161	568.299	0.038	0.004
Excavators	750	0.189	1.224	2.266	0.005	0.076	0.070	487.653	0.152	0.004
Forklifts	120	0.567	3.858	5.015	0.005	0.400	0.368	489.866	0.153	0.004
Generator Sets	120	0.461	3.418	3.752	0.006	0.239	0.239	568.299	0.041	0.004
Graders	175	0.661	3.710	6.605	0.005	0.371	0.342	497.377	0.155	0.004
Other Construction Equipment	175	0.436	3.263	4.755	0.005	0.250	0.230	487.986	0.152	0.004
Other Material Handling Equipment	175	0.327	3.218	3.332	0.005	0.173	0.159	490.583	0.153	0.004
Pavers	120	0.536	3.660	5.019	0.005	0.375	0.345	488.181	0.152	0.004
Paving Equipment	120	0.449	3.607	4.270	0.005	0.302	0.278	492.118	0.153	0.004
Plate Compactors	15	0.661	3.470	4.142	0.008	0.161	0.161	568.300	0.059	0.005
Rollers	120	0.481	3.610	4.650	0.005	0.320	0.294	492.212	0.153	0.004
Rough Terrain Forklifts	120	0.222	3.270	2.845	0.005	0.136	0.125	491.211	0.153	0.004
Rubber Tired Dozers	250	0.669	2.512	7.208	0.005	0.350	0.322	493.634	0.154	0.004
Rubber Tired Loaders	250	0.334	1.346	4.131	0.005	0.140	0.129	487.902	0.152	0.004
Scrapers	500	0.369	2.828	4.568	0.005	0.180	0.166	490.773	0.153	0.004
Signal Boards	50	1.018	4.657	4.427	0.007	0.270	0.270	568.299	0.091	0.005
Skid Steer Loaders	120	0.216	3.282	2.860	0.005	0.140	0.129	490.094	0.153	0.004
Surfacing Equipment	250	0.241	1.234	3.989	0.005	0.113	0.104	494.139	0.154	0.004
Sweepers/Scrubbers	120	0.600	3.882	5.136	0.005	0.428	0.394	492.554	0.153	0.004
Tractors/Loaders/Backhoes	120	0.420	3.692	4.154	0.005	0.294	0.271	494.124	0.154	0.004

Source:

OFFROAD EMISSION FACTORS, SacMetro AQMD, Road Construction Emissions Model, Version 8.1.0, 2016. Emission factors for year 2018 are used.

Table 6: Wind Erosion Emissions for Disturbed Areas

Pollutant	Emission Factor (T/acre-yr)¹	Total Acreage of Disturbance²	Potential Uncontrolled Emissions (tons/yr)
TSP	0.38	23	8.7
PM ₁₀	0.38	23	8.7
PM _{2.5}	0.38	23	8.7

Notes:

1. Uncontrolled particulate emissions from wind erosion of disturbance acreage are calculated from the TSP emission factor provided in AP-42 11.9-4 for exposed areas. Assume TSP = PM10 = PM2.5.
2. Data are based on an estimated Proposed Actions disturbance area. The project is will include 10,000 linear feet of fenceline construction. Assuming the disturbance area is 100 ft wide, the estimated total acreage of disturbance is 22.9 acres.