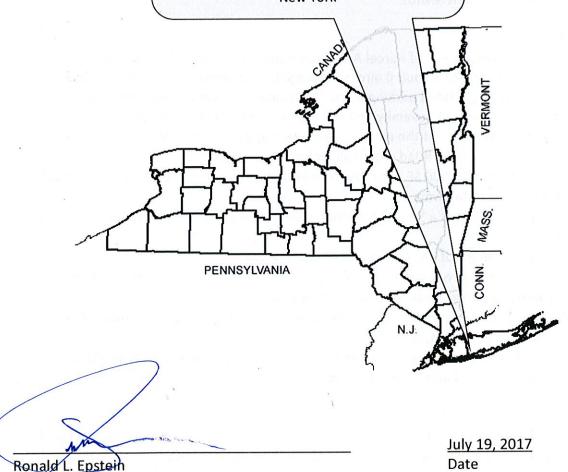
# STATE ENVIRONMENTAL QUALITY REVIEW ACT ENVIRONMENTAL ASSESSMENT

**July 2017** 

Long-Term Lease of Five Development Parcels at Farmingdale Republic Airport

Hamlet of East Farmingdale, Town of Babylon, Suffolk County, New York



Assistant Commissioner - Policy & Planning/CFO New York State Department of Transportation



ANDREW M. CUOMO Governor MATTHEW J. DRISCOLL Commissioner

#### Purpose:

The proposed action includes the long-term lease of five parcels (Parcel A, B/C, D, and E) at Republic Airport and the development of those parcels by the applicant. Additionally, the applicant is proposing to lease and manage the existing Echo Ramp, which is partially contiguous to Parcel C at the southwest extent of the ramp.

#### **Description of proposed action:**

The proposed action includes five parcels at Republic Airport which is generally bounded by Conklin Street to the north, New Highway to the east, Farmingdale Road (NY-109) to the south, and Broad Hollow Road (NY-110) to the west. The project is located in the hamlet of East Farmingdale, Town of Babylon, Suffolk County, New York. A Site Location Map identifying the subject property, as well as conceptual site plans for each of the Parcels (A through E) are enclosed herewith.

#### **PARCEL A**

The proposed redevelopment of Parcel A (approximately 5.1 acres) includes the construction of a 57,600-SF Group II aircraft storage hangar and maintenance facility, an enlarged ramp, and associated parking areas. Specifically, Parcel A would be cleared to allow for the realignment of Seversky Road to the north of its existing location and to accommodate an extension of the existing Talon Air Hangar 7 ramp space to the north. The realignment of Seversky Road would allow for:

- The addition of 75,500 SF of heavy-duty asphalt ramp area to provide aircraft with direct access to taxiway;
- The development of a 57,600-SF Group II aircraft storage hangar and maintenance facility;
- The development of an additional 133 parking spaces;
- The incorporation of blast fences as required to contain aircraft operations in close proximity to public areas and adjacent properties;
- The extension of existing secure airport perimeter fencing to encompass extended aviation development; and
- The extension of existing utility services into Parcel A, routed in coordination with current, proposed and future development.

#### **PARCEL B**

The proposed redevelopment of Parcel B (5.8± acres) includes the construction of a Fixed-Base Operator (FBO) and hangar facility, segregated into distinct FBO, hangar, maintenance, pilot, mechanical, and hangar support areas. The proposed facility would be a total of 67,356 SF (1.5 acres) consisting of:

- Aa 12,780-SF, two-story FBO building;
- A 51,660-SF, clear-span aircraft hangar bay; and
- An additional 2,916-SF of one-story support space.

The primary goal of the new Talon FBO facility would be to enhance and consolidate operations currently in separate locations on and around Republic Airport into one efficient operation with improved access to roads and highways. The design of the main hangar bay

would allow for storage of the current Talon rotary and fixed-wing charter fleet and would provide additional space for itinerant and tenant aircraft on an as-needed basis. In addition to the hangar space, the facility would be adjacent to Parcel C.

#### **PARCEL C**

The proposed redevelopment of Parcel C would support FBO activities by providing aircraft parking and movement areas. The proposal provides 4.5± acres of ramp area with direct taxiway access, including:

- Construction of an aircraft parking ramp area that would be adjacent to the FBO development on Parcel B;
- A new taxiway connection from Parcel C to the taxiway located on Parcel B;
- Airside access at the end of a Grumman Lane extension, via a new secure vehicular entry gate; and
- A blast fencing, as required.

Parcel C currently contains an abandoned restaurant building and dilapidated parking lot, which would be demolished and reclaimed as aviation ramp space capable of supporting a full spectrum of general aviation needs. The entirety of Parcel C would be paved with heavy-duty asphalt mix, designed to support ultra-long-range turbine aircraft operations.

#### **PARCEL D**

Parcel D (7.3± acres total) would consist of 5.8 acres of impervious surfaces, with 1.5 acres of hydroseeded pervious areas. The proposed redevelopment of Parcel D includes:

- Construction of a general aviation ramp designed for light aircraft. This would support the relocation of small aircraft currently located on a portion of the existing Echo Ramp included in the proposed action.
- A pavement connection to Taxiway A allowing for direct access from the Parcel D ramp to the airfield;
- A small, self-fueling AV-Gas apparatus to be maintained on-site; and
- A security gate incorporated into the existing fence-line to prevent unauthorized access onto the ramp area.

#### **PARCEL E**

Parcel E (18.5± acres total) currently consists of wooded area with 2.0± acres of cleared areas and materials laydown/stockpile areas. The proposal is to clear and convert the parcel into paved surfaces of asphalt, with 2.0± acres of hydroseeded pervious areas.

The proposed redevelopment includes:

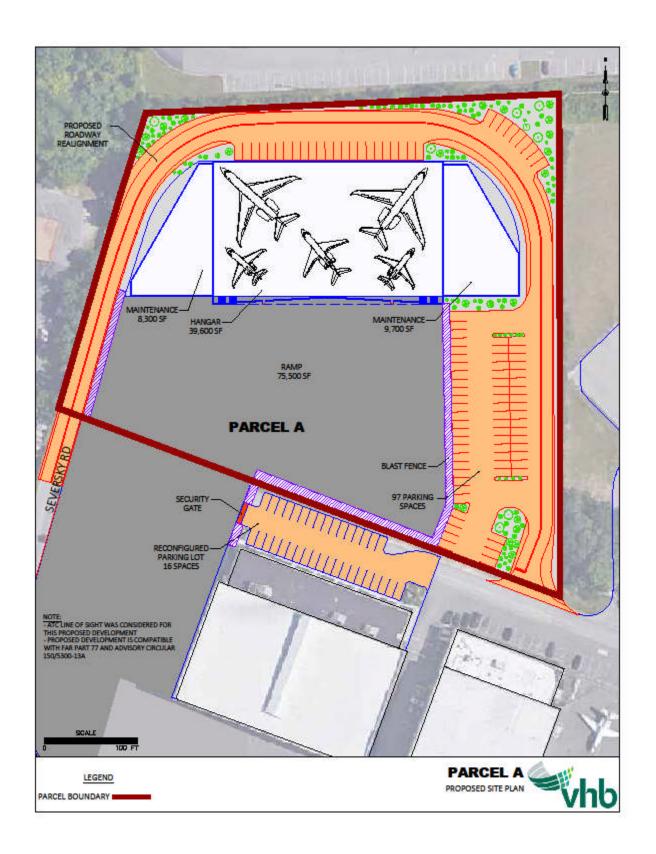
- Construction of a general aviation ramp;
- 196,000 SF of hangar space designed for light single-engine and twin-piston aircraft, light turbo-prop aircraft and light jets;
- A new taxiway connecting Parcel E to existing Taxiway G, allowing aircraft direct access to the airport's taxiway network;
- Utility service connections into Parcel E;
- A small, self-fueling AV-Gas apparatus, to be maintained on-site; and

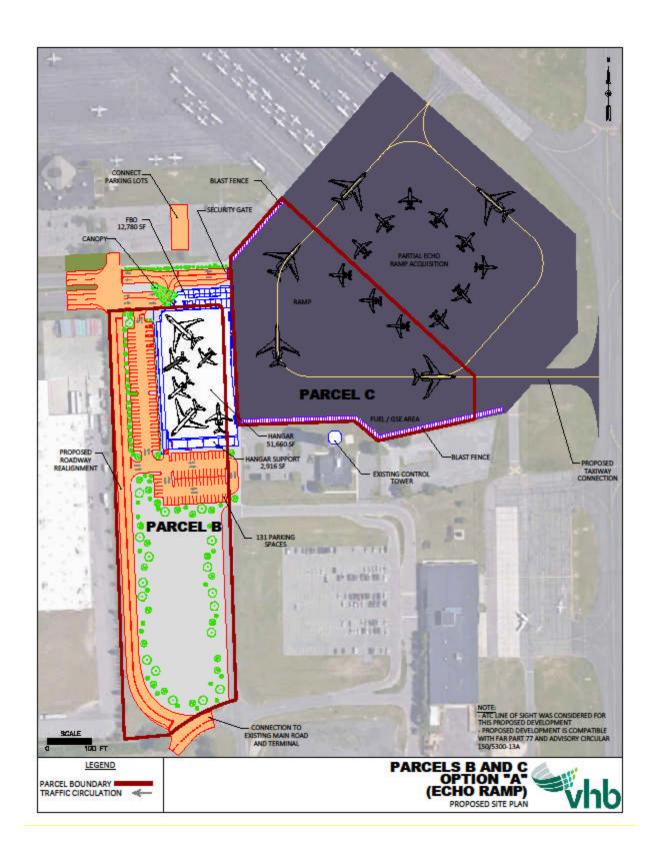
• A security gate would be incorporated into the existing fence-line to prevent unauthorized access onto the ramp area.

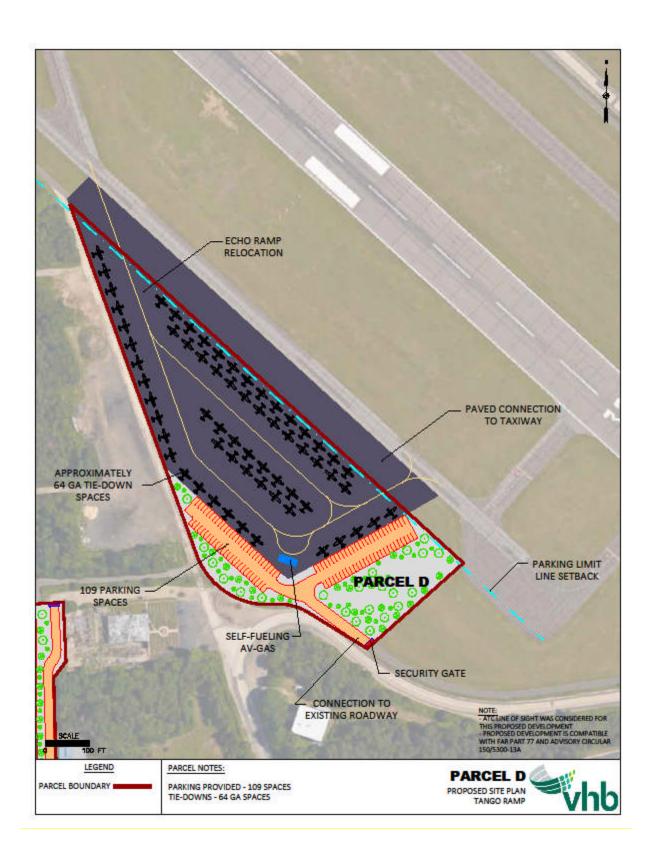
#### **ECHO RAMP**

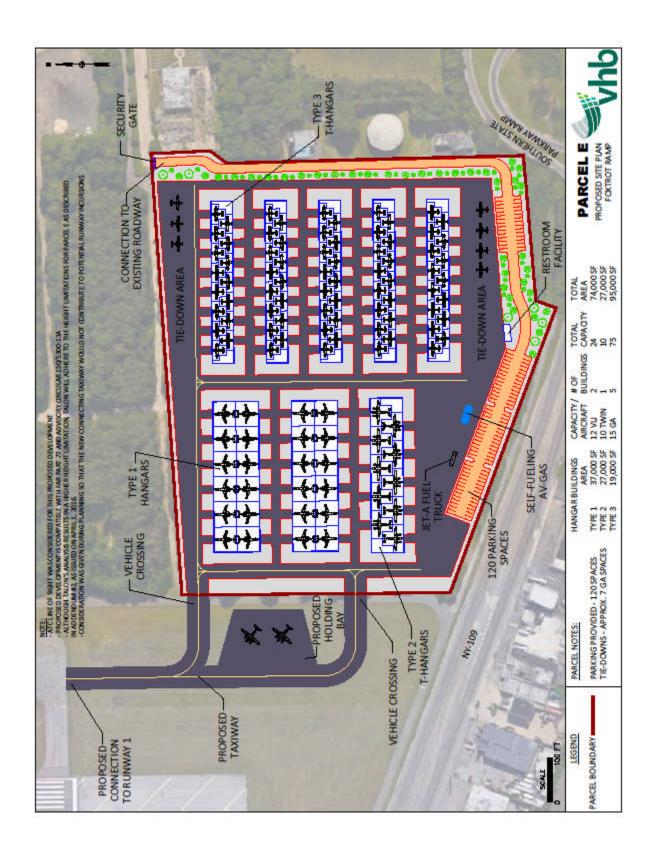
In addition to the lease of the five designated parcels (A through E) described above, the subject application includes the lease and management of Echo Ramp, which is 17.4± acres in size. As mentioned above, some aircraft would be relocated from the Echo Ramp to Parcel D. The remainder of the ramp utilization would be optimized, and the portion adjacent to Parcel C would be utilized as ramp space (e.g., for circulation, fueling and servicing of aircraft). No physical improvements are proposed.

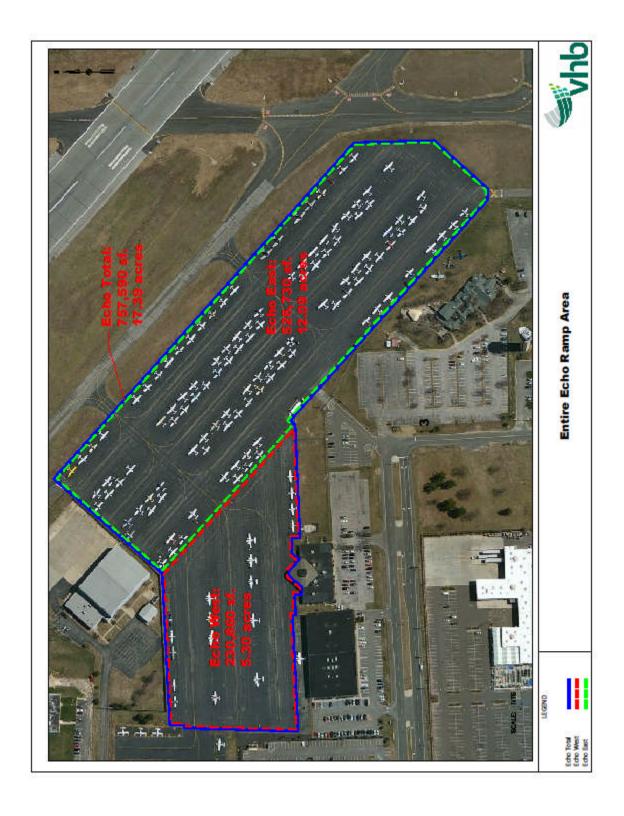












#### SEQR:

This action is being progressed with an Environmental Assessment as per 17 NYCRR 15 because it does not meet the criteria in Section 15.14 (Type II actions).

#### **Environmental considerations:**

#### Air quality:

The Republic Airport is located in an area currently designated by the Environmental Protection Agency as a moderate nonattainment area for the 2008 8-hour ozone standard and a maintenance area for the 2006 PM2.5 standard. Based upon the outcomes of this assessment (see Appendix A) construction-related emissions associated with the proposed development of five parcels at Republic Airport are within (i.e., less than) the applicable General Conformity Rule de minimis thresholds for NOx and VOCs (the principal precursors to ozone formation), and PM2.5. Therefore, the proposed development will comply with the State Implementation Plans (SIP). See Appendix A.

#### Water Quality:

Surface water quality: The Republic Airport maintains its own Stormwater Pollution Prevention Plan (SWPPP) for industrial and construction activities carried out by tenants. The proposed action will be implemented in accordance with the effective SWPPP and will have no more than a minor effect on the stormwater runoff.

Ground water quality: The proposed action will not directly affect groundwater. New buildings will be slab-on-grad and Stormwater will be collected and recharged on-site to the maximum extent practicable. There will not be more than a minor effect on the groundwater.

Potential for flooding, erosion or other drainage problems: The Republic Airport maintains its own Stormwater Pollution Prevention Plan (SWPPP) for industrial and construction activities carried out by tenants. The proposed action will be implemented in accordance with the SWPPP currently in effect and will not effect the flooding potential. Appropriate erosion and sediment control measures will be implemented during construction.

#### Wetlands:

The project area was screened for wetlands and none were identified on Parcels B through E. Parcel A has a small area of standing water (0.01 acres) with no inlets or outlets. It does not meet the definition of a wetland or Waters of the U.S. or Waters of New York State.

#### **Traffic impacts:**

As a result of the proposed action it is anticipated that approximately 240 new jobs will be generated at the lessee facilities. In addition, as a result of the proposed action, it is anticipated that an additional 12 aircraft per year would be utilizing the airport.

A Traffic Analysis (see Appendix B) has been performed for the proposed action. From the examination of site conditions and the results of the analysis, it is concluded that there would be a minimal effect on traffic conditions as a result of the proposed action. See Appendix B.

#### **Noise levels:**

A Noise Analysis (see Appendix C) has been performed for the proposed action. The Area Equivalent Method (AEM) was used to determine the potential change in noise levels based on the projected increase in the total aircraft operations at the Airport resulting from the proposed action. The analysis indicates that the induced demand created by the proposed action will not result in a noticeable change in existing noise levels. See Appendix C.

#### Increase in solid waste production:

Although there will be an expected increase in solid waste production, the project is consistent with the existing activities of the Applicant and solid waste production will not exceed the capacity of the existing facilities.

#### **Vegetation Removal:**

With the exception of portions of Parcels A and E all areas to be disturbed are currently developed, are paved or have turf established. Parcels A and E have a total of 18.4 acres of wooded land to be cleared. This represents less than one-half of the existing wooded acreage within the airport. Woodland is inconsistent with the operations of the airport, and the clearing will not constitute a significant effect.

#### **Effect on threatened or endangered species:**

A field inspection of the project area was conducted and the area has been screened for threatened or endangered species with the NYS Department of Environmental Conservation (NYSDEC) Natural Heritage Program and the US Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPAC) site. None have been identified. The northern long-eared bat (NLEB) has the potential to occur within the wooded area of the project site. There are no know occurrences of the NLEB within the project area, but to ensure there are no impacts to the NLEB, tree cutting will be limited to during the winter tree cutting time frame (November 1 – March 31) when the NLEB would be hibernating.

#### Other natural resources:

A field inspection of the project area was conducted and the area has been screened with the NYSDEC *Environmental Resource Mapper* No resources were identified. The project is not within or adjacent to a Critical Environmental Area.

#### Attraction of a large number of people:

The proposed project and resultant activities will not have more than a minor effect on the number of people visiting the airport.

#### Creation of a conflict with a locally approved plan:

The proposed action occurs on property owned by New York State and is not subject to local zoning. Additionally, no conflict is anticipated as the uses associated with the proposed action are consistent with the Applicant's current operation and with the operations at the airport in general.

#### Impairment of the character of the existing community:

The proposed activities are consistent with the Applicant's current operation and with the operations of the airport in general. There will be no more than a minor effect on the character of the existing community.

#### Major change in the use of energy:

Although there will be a larger energy demand as a result of the proposed action, there will be no more than a minor effect on the use of energy, as the proposed activities are consistent with the Applicant's current operation and with the operations of the airport in general.

#### Creation of a hazard to human health:

The proposed action will not create a hazard to human health.

#### **Substantial change in land use:**

No change in land use will occur as the uses associated with the proposed action are consistent with the Applicant's current operation and with the operations at the airport in general.

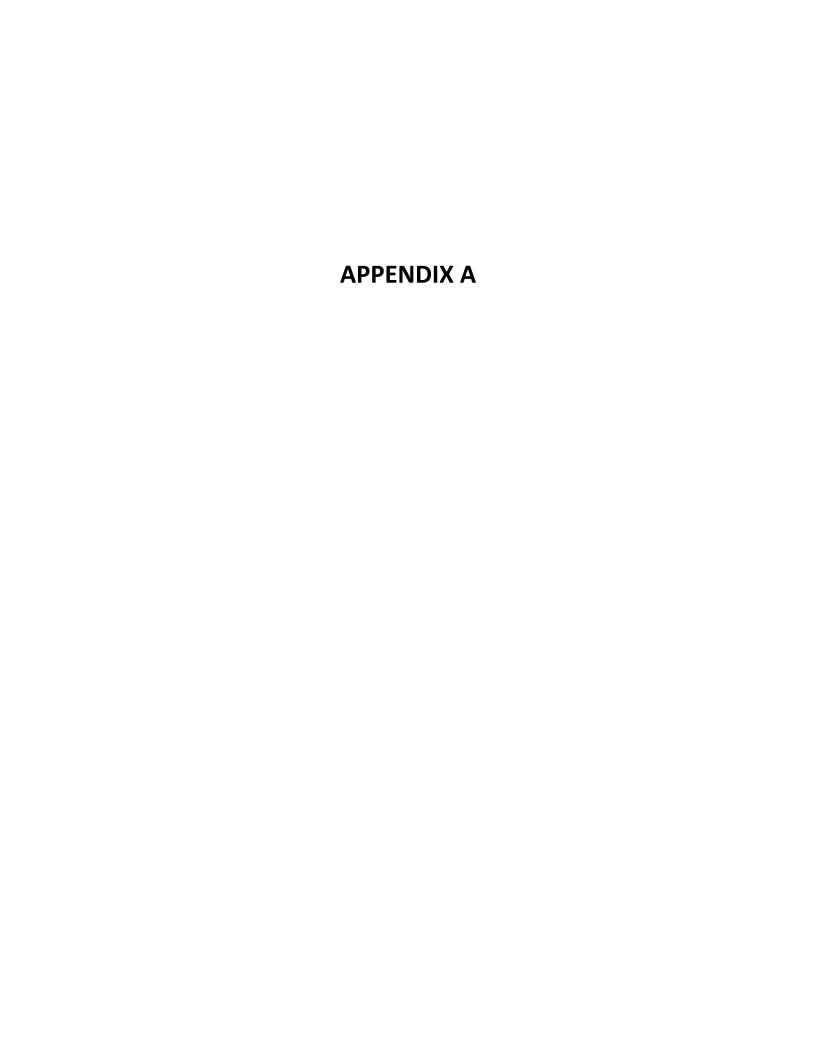
#### **Cumulative effects:**

The action will not create a material demand or other actions which would result in a significant effect on the environment. There are no other related actions, undertaken, funded or permitted by the Department which individually or considered together, would have a significant effect on the environment.

A public meeting was held on April 6, 2017. Oral comments were taken at the meeting and in written form during a comment period ending on April 20, 2017. Responses to the comments were posted to the Republic Airport website at <a href="http://www.republicairport.net/">http://www.republicairport.net/</a> and <a href="https://www.dot.ny.gov/divisions/operating/opdm/aviation/directories/nys-airports">https://www.dot.ny.gov/divisions/operating/opdm/aviation/directories/nys-airports</a>.

#### **Conclusion:**

In accordance with17 NYCRR 15 The Department has determined that this project will not have a significant effect on the environment. A Determination of No Significant Effect will be prepared. This determination is based upon the findings and considerations noted above.



To: Peter Byrne Date: June 23, 2017

Project #: 25762.00

From: Mike Kenney, KBE Re: Republic Airport

Stratosphere Development Air Quality Analysis

This study presents the analysis and findings of an air quality assessment conducted to evaluate the proposed improvements by Stratsophere Development Co. LLC at Republic Airport (FRG), located in East Farmingdale, (Suffolk County) New York. These improvements involve five parcels of both developed and vacant land planned for aviation use. For this analysis, construction emissions associated with the development of the parcels were computed for years 2017 through 2022.

### **Affected Environment**

This sub-section includes information on air quality management, relevant air quality regulations, and the current attainment/non-attainment status of Suffolk County.

# Regulatory Agencies

The management of air quality conditions in the state of New York, including the area in and around FRG, is the responsibility of federal, state, regional, and local governmental air quality regulatory agencies. Under the federal Clean Air Act (CAA), the United States Environmental Protection Agency (EPA) establishes the guiding principles and policies for protecting air quality conditions throughout the nation. EPA's primary responsibilities in this area include promulgating the National Ambient Air Quality Standards (NAAQS)<sup>1</sup>, which define ambient air concentrations for criteria pollutants that are considered safe for public health, welfare and the environment, as well as approving State Implementation Plans (SIPs).

The Federal Aviation Administration (FAA) is the primary agency involved in, and responsible for, ensuring that air quality impacts associated with airport projects and actions adhere to the reporting and disclosure requirements of the National Environmental Policy Act (NEPA) as well as the General Conformity rule of the CAA.

On the state level, the New York State Department of Environmental Conservation (NYSDEC) is responsible for enforcing the CAA including compliance with the NAAQS, the issuance of air emission source permits, monitoring of air quality conditions, and assisting in the preparation of the SIP. Also on the state level, the New York State Department of Transportation (NYSDOT) is responsible for enforcing the CAA as it pertains to transportation-related projects. Regionally, New York State is part of the Ozone Transport Commission (OTC)<sup>2</sup>. This group comprises 13-states working with the EPA on regional ozone (O<sub>3</sub>) conditions in the Northeast and Mid-Atlantic regions.<sup>3</sup>

On a local level, the New York City Department of Environmental Protection (NYCDEP) is responsible for updating and enforcing the Air Pollution Control Code which has the goal to preserve, protect and improve the air resources of the city.

<sup>1</sup> EPA, National Ambient Air Quality Standards (NAAQS) at https://www.epa.gov/criteria-air-pollutants/naaqs-table.

<sup>2</sup> Ozone Transport Commission (OTC), http://www.otcair.org/.

<sup>3</sup> OTC members include: Connecticut, Delaware, the District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Virginia.

# National Ambient Air Quality Standards

Pursuant to the requirements of the CAA, the EPA establishes, enforces, and periodically reviews the NAAQS. The NAAQS are set to safeguard public health and environmental welfare against the detrimental effects of ambient air pollution and are defined as primary and/or secondary standards. Primary NAAQS are health-based standards geared toward protecting sensitive or at-risk portions of the population such as asthmatics, children, and the elderly. Secondary NAAQS are welfare-oriented and are designed to prevent decreased visibility and damage to animals, vegetation, and physical structures.

NAAQS have been established for six common air pollutants, referred to as criteria pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), O<sub>3</sub>, particulate matter (PM) which includes particulate matter with a diameter of 10 microns or less (PM<sub>10</sub>) and a diameter of 2.5 microns or less (PM<sub>2.5</sub>), and sulfur dioxide (SO<sub>2</sub>). The NAAQS are listed in **Table 1**.

Table 1 National Ambient Air Quality Standards

Pollutant	Primary/Secondary	<b>Averaging Time</b>	Level	Form		
Carbon Monoxide (CO)	Primary	8-hour	9 ppm	Not to be exceeded more than once per		
		1-hour	35 ppm	year		
Lead (Pb)	Primary and Secondary	Rolling 3-month average	0.15 μg/m <sup>3 (1)</sup>	Not to be exceeded		
Nitrogen Dioxide (NO <sub>2</sub> )	Primary	1-hour	100 ppb	98 <sup>th</sup> percentile of 1-hour daily maximum concentrations, averaged over 3 years		
	Primary and Secondary	Annual	53 ppb <sup>(2)</sup>	Annual Mean		
Ozone (O <sub>3</sub> )	Primary and Secondary	8-hour	0.070 ppm <sup>(3)</sup>	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 year		
Particulate Matter (PM <sub>2.5</sub> )	Primary	Annual	12 μg/m³	Annual mean, averaged over 3 years		
	Secondary	Annual	15 μg/m³	Annual mean, averaged over 3 years		
	Primary and Secondary	24-hour	35 μg/m³	98 <sup>th</sup> percentile, averaged over 3 years		
Particulate Matter (PM <sub>10</sub> )	Primary and Secondary	24-hour	150 μg/m³	Not to be exceeded more than once per year on average over 3 years		
Sulfur Dioxide (SO <sub>2</sub> )	Primary	1-hour	75 ppb <sup>(4)</sup>	99 <sup>th</sup> percentile of 1-hour daily maximum concentrations, averaged over 3 years		
	Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year		

Source: EPA, National Ambient Air Quality Standards (NAAQS) at http://www.epa.gov/air/criteria.html, April 2017.

Notes: ppb = parts per billion, ppm = parts per million, and  $\mu g/m^3$  = micrograms per cubic meter of air.

is the previous  $SO_2$  standards (0.14 ppin 24-hour and 0.03 ppin almual) will additionally remain in effect in Certain areas. (1) any area for which implementation plans providing for attainment of the current (2010) standard have not been submitted and approved and which is designated nonattainment under the previous  $SO_2$  standards or is not meeting the requirements of a SIP call under the previous  $SO_2$  standards (40 CFR 50.4(3)), A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the require NAAQS.

The NYSDEC has adopted these same air quality standards.

# Attainment/Nonattainment Status

The EPA also designates areas as either meeting or not meeting the NAAQS. An area with measured pollutant concentrations lower than the NAAQS is designated as an attainment area, and an area with measured pollutant concentrations that exceed the NAAQS is designated as a nonattainment area. Areas that are in transition back to attainment are designated as maintenance areas. Ozone nonattainment areas are further classified as extreme, severe, moderate, or marginal. An area is designated as unclassifiable when there is a lack of sufficient data to form the basis of an attainment status determination.

Suffolk County is currently designated by the EPA as a moderate nonattainment area for the 2008 8-hour O<sub>3</sub> standard and a maintenance area for the 2006 PM<sub>2.5</sub> standard. **Table 2** 

<sup>(1)</sup> In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m³ as a calendar quarter average) also remain in effect.

<sup>(2)</sup> The level of the annual NO<sub>2</sub> standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

<sup>(3)</sup> Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O<sub>3</sub> standards additionally remain in effect in some areas. Revocation of the previous (2008) O<sub>3</sub> standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

(4) The previous SO<sub>2</sub> standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which implementation plans providing for attainment of the current

summarizes and provides additional information regarding the EPA-designated nonattainment/maintenance status for the county.

Table 2 EPA-designated Nonattainment/Maintenance Status for Project Area

County, State	Pollutant	Area Name	Classification	County NA Part/Whole? (1)
	8-hour Ozone (2008 Standard)		Nonattainment (Moderate)	
Suffolk County, New York	PM-2.5 (2006)	New York-N. New Jersey- Long Island	Redesignated to Maintenance on 04/18/2014	Whole

Source: EPA, Green Book at <a href="http://www.epa.gov/airquality/greenbook/">http://www.epa.gov/airquality/greenbook/</a>, April 2017.

Notes:

The CAA requires states with nonattainment designations to develop, update and maintain SIPs that will demonstrate compliance with the NAAQS. Common features of a SIP include attainment timeframes or milestones, area-wide emissions inventories and budgets and control/mitigation strategies that are to be employed to achieve attainment.

# General Conformity Requirements

The General Conformity Rule of the federal CAA prohibits federal agencies (including the FAA) from permitting or funding projects that do not conform to an applicable SIP. The General Conformity Rule applies only to areas that are designated nonattainment or maintenance. As a means of demonstrating conformity with the SIP, project/action-related emissions of the applicable pollutants are compared to *de minimis* level thresholds.<sup>4</sup> If the emissions exceed the thresholds, a formal Conformity Determination is required to demonstrate that the action conforms to the applicable SIP. Conversely, if project-related emissions are below the *de minimis* levels the project is automatically assumed to conform to the SIP. Because FRG is located in an ozone non-attainment area, and is part of the OTC, the applicable de minimis levels are listed in Table 3. As shown, these thresholds apply to NOx and VOCs – the two primary precursors to ozone formation, and PM2.5

Table 3 General Conformity *de minimis* Levels

Pollutant	Tons/Year
Ozone	100 for NOx and 50 for VOCs
PM <sub>2.5</sub>	100

Source: EPA, De Minimis Levels, https://www.epa.gov/general-conformity/de-minimis-emission-levels, April 2017.

# **Transportation Conformity Requirements**

The CAA also contains a Transportation Conformity Rule that functions similarly to the General Conformity Rule. The Transportation Conformity Rule restricts federal funding to regional

<sup>(1)</sup> The column "County NA Part/Whole" indicates whether only a part of the county or the whole county is designated nonattainment.

<sup>4</sup> USEPA, De Minimis Levels, https://www.epa.gov/general-conformity/de-minimis-emission-levels, April 2017.

highway or transportation projects that do not conform to an applicable SIP. The responsibility of transportation conformity determination is vested in the Federal highway Administration (FHWA) and state Department of Transportation (DOT). The proposed improvements to FRG are not subject to the Transportation Conformity Rule because they do not involve regional roadway/highway projects.

However, as the proposed improvements to FRG will involve a portion of an existing road (i.e., the re-alignment of Seversky Road), the project was assessed for air quality impacts in accordance with the NYSDOT Environmental Procedures Manual (EPM) (Chapter 1.1/The Environmental Manual (TEM) Chapter 4.4.16). Based on the air quality screening criteria for potential air quality impacts at Section 9.A(i) and (ii) of the NYSDOT EPM/TEM manual, it has been determined that the proposed road re-alignment associated with the proposed project does not warrant any additional air quality analyses (i.e., CO Microscale Analysis, PM Microscale Analysis, Mesoscale Air Quality Analysis, or Mobile Source Air Toxics (MSAT) Analysis)<sup>5</sup>.

# **Environmental Consequences**

This section discusses the methodology and outcomes of an assessment conducted of the construction-related emissions associated with FRG. In addition to construction-related emissions, as a result of the recent maintenance and servicing agreements, Stratosphere attracts approximately six new aircraft operations<sup>6</sup> per year that would not have operated at the Airport without Stratosphere. Currently, approximately 210,000 annual operations occur at the Airport, based on Federal Aviation Administration figures. With the six aircraft operations attracted by Stratosphere, this equates to approximately .003 percent (6 operations/210,000 total operations). It is anticipated that Stratosphere's proposal will be operational by 2020 at which time annual operations at the Airport will be approximately 212,000. At that time, Stratosphere anticipates being able to attract 10 new aircraft operations per year that would not have operated from the Airport without Stratosphere's facility. This equates to .005 percent of the total operations at the Airport (10 operations/212,000 total operations), or approximately one aircraft operation per month.

This induced growth would be in addition to the aircraft that Stratosphere normally services<sup>7</sup> and that would normally come to the Airport anyway. At full build-out in 2020, Stratosphere estimates that it will be able to service 10-12 aircraft per day over the next one to two years, 15 aircraft per day in three to five years, and 20 aircraft per day after five years. These are mostly aircraft that would come to the Airport. The induced growth would be an additional aircraft per month that Stratosphere would be able to attract.

Importantly, because the proposed projects are forecasted to only increase aircraft operations within a range of 0.003 percent to 0.005 percent, one could correspondingly expect air quality emissions to increase to the same degree. This amount represents an infintesimal increase when compared to the No-Build alternative. Therefore, an air quality assessment of operational emissions is not required.

<sup>&</sup>lt;sup>5</sup> The Proposed Project does not meet the criteria listed in Section 9.A(i) and (ii) of the NYSDOT EPM/TEM manual.

<sup>&</sup>lt;sup>6</sup> Aircraft Operation: a landing or a takeoff by an aircraft. Assuming an aircraft that arrives at FRG would at some point depart, each aircraft would result in two operations – a landing and a takeoff.

<sup>&</sup>lt;sup>7</sup> Service or servicing refers to ground handling of aircraft for the purposes of fueling, maintaining, or general catering to the operational needs of the aircraft user.

#### **Construction Emissions**

Air emissions associated with the development of the five parcels at FRG are viewed as temporary and vary based on each of the project's components durations and levels of activity. These emissions occur predominantly in the engine exhaust from the operation of construction equipment and vehicles (e.g., scrapers, dozers, delivery trucks, etc.), but are also attributed to fugitive dust produced from construction materials staging, soil handling, and un-stabilized land and wind erosion.

Construction equipment typically utilized in airport projects comprises both of on-road (i.e., road-licensed) and non-road equipment (i.e., off-road). The former category of vehicles are used for the transport and delivery of supplies, material and equipment to and from the site, and also include construction worker vehicles. The latter categories of equipment are operated on-site for activities such as soil/material handling, site clearing and grubbing.

The Airport Construction Emissions Inventory Tool (ACEIT), developed by the Airport Cooperative Research Program (ACRP),<sup>8</sup> was used to estimate construction emissions. ACEIT uses default emission factors derived from EPA-approved emissions models for both non-road construction equipment (i.e., NONROAD) and on-road vehicles (i.e., MOVES). NONROAD provides emission factors for off-road equipment/vehicles (e.g., dozers, tractors, loaders, etc.). In contrast, MOVES is used to develop emission factors for on-road vehicles (e.g., passenger cars, delivery trucks, etc.). Both exhaust and fugitive (e.g., evaporative) emission factors were developed using these models for both non-road construction equipment and on-road vehicles and are incorporated into ACEIT.

Based on a construction period of October 2017 to October 2022, the assessment results are presented in **Table 4**. Again, for completeness and disclosure, construction emissions of CO,  $SO_2$ , and  $PM_{10}$  are reported in addition to the  $PM_{2.5}$  and  $O_3$  precursors of NOx and VOCs. As shown, the total emissions associated with construction activities vary by year but are all well below the applicable General Conformity Rule *de minimis* thresholds of 100 tons per year for NOx and  $PM_{2.5}$ , and 50 tons per year for VOCs.

<sup>&</sup>lt;sup>8</sup> Transportation Research Board (TRB), ACRP Report 102, Guidance for Estimating Airport Construction Emissions, 2014 http://www.trb.org/ACRP/Blurbs/170234.aspx.

Table 4 Criteria Pollutant Emissions from Construction Activities (tons per year)

Construction Year	со	NOx	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	voc
2017	6	4	0.02	1	0.2	4
2018	11	7	0.04	1	0.4	9
2019	11	8	0.04	1	0.4	6
2020	13	9	0.5	1	0.5	7
2021	5	3	0.2	0.5	0.2	3
2022	4	3	0.1	0.4	0.1	2
De Minimis Threshold	NA	100	NA	NA	100	50
Exceeds <i>De Mini</i> mis Threshold? (Yes/No)		No			No	No

Note: NA = not applicable.

Source: EPA, De Minimis Levels, https://www.epa.gov/general-conformity/de-minimis-emission-levels, April 2017.

#### **Climate**

On August 1, 2016, the Council on Environmental Quality (CEQ) issued the Final Guidance under NEPA describing how and when federal agencies should address the subject of GHG emissions and climate change in documents prepared pursuant to NEPA. As noted by CEQ guidance document, "climate change is a particularly complex challenge given its global nature and the inherent interrelationships among its sources, causation, mechanisms of action, and impacts; however, analyzing a proposed action's GHG emissions and the effects of climate change relevant to a proposed action—particularly how climate change may change an action's environmental effects—can provide useful information to decision makers and the public." CEQ further recommends that "when addressing climate change agencies should consider: (1) the potential effects of a proposed action on climate change as indicated by assessing GHG emissions and, (2) the effects of climate change on a proposed action and its environmental impacts." 10

For this analysis, GHG emissions associated with the construction activities at FRG are computed and disclosed. The emissions are presented in metric tons of  $CO_2$  equivalent ( $CO_2$ e) relevant to their Global Warming Potentials (GWP), and are comprised of  $CO_2$ , methane ( $CO_4$ ) and nitrous oxide ( $CO_2$ ).  $CO_2$ e are based on GWP values of 1 for  $CO_2$ , 28 for  $CO_4$ , and 265 for  $CO_4$ 0 (based on a 100 year period).

The estimated GHG emissions from the FRG project are presented in Table 5.

Table 5 GHG Emissions from Construction Activities (MT of CO<sub>2</sub>e/per year)

<sup>&</sup>lt;sup>9</sup> Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews, CEQ (August 2016),

https://www.whitehouse.gov/sites/whitehouse.gov/files/documents/nepa\_final\_ghg\_guidance.pdf.

<sup>10</sup> Ibid

<sup>&</sup>lt;sup>11</sup> Fifth Assessment Report (AR5), Intergovernmental Panel on Climate Change (IPCC) (2014).

Construction Year	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total CO₂e
2017	2,061	3	2	2,066
2018	3,461	5	4	3,470
2019	3,438	4	3	3,445
2020	3,922	5	4	3,931
2021	1,654	3	2	1,659
2022	1,240	2	1	1,243

Source : KB Environnemental Sciences, Inc., April 2017.

Note: MT = metric ton; and  $CO_2e = carbon dioxide equivalent$ .

# Conclusion

FRG is located in an area currently designated by the EPA as a moderate nonattainment area for the 2008 8-hour ozone standard and a maintenance area for the 2006 PM2.5 standard. Based upon the outcomes of this assessment, construction-related emissions associated with the proposed development of five parcels at FRG are within (i.e., less than) the applicable General Conformity Rule de minimis thresholds for NOx and VOCs (the principal precursors to ozone formation), and PM2.5. Therefore, the proposed development will comply with the SIP.

# **Acronyms**

**ACEIT - Airport Construction Emissions Inventory Tool** 

ACRP - Airport Cooperative Research Program

CAA - Clean Air Act

CEQ – Council on Environmental Quality

CH<sub>4</sub> - methane

CO - carbon monoxide

CO<sub>2</sub> - carbon dioxide

CO<sub>2</sub>e – carbon dioxide equivelent

**DEIS - Draft Environmental Impact Statement** 

DOT – Department of Transportation

FAA - Federal Aviation Administration

FHWA - Federal Highway Administration

FRA - Federal Railroad Administration

GHG - greenhouse gas

MT - Metric tons

N<sub>2</sub>O - Nitrous oxide

NAAQS - National Ambient Air Quality Standards

NEPA - National Environmental Policy Act

NO - nitric oxide

NO<sub>2</sub> - nitrogen dioxide

NOx - Nitrogen oxides

NYCDEP - New York City Department of Environmental Protection

NYSDEC - New York State Department of Environmental Conservation

O<sub>3</sub> - Ozone

OTC - Ozone Transport Commission

Pb - Lead

PM - particulate matter

PM<sub>10</sub> - particulate matter with a diameter of 10 microns or less

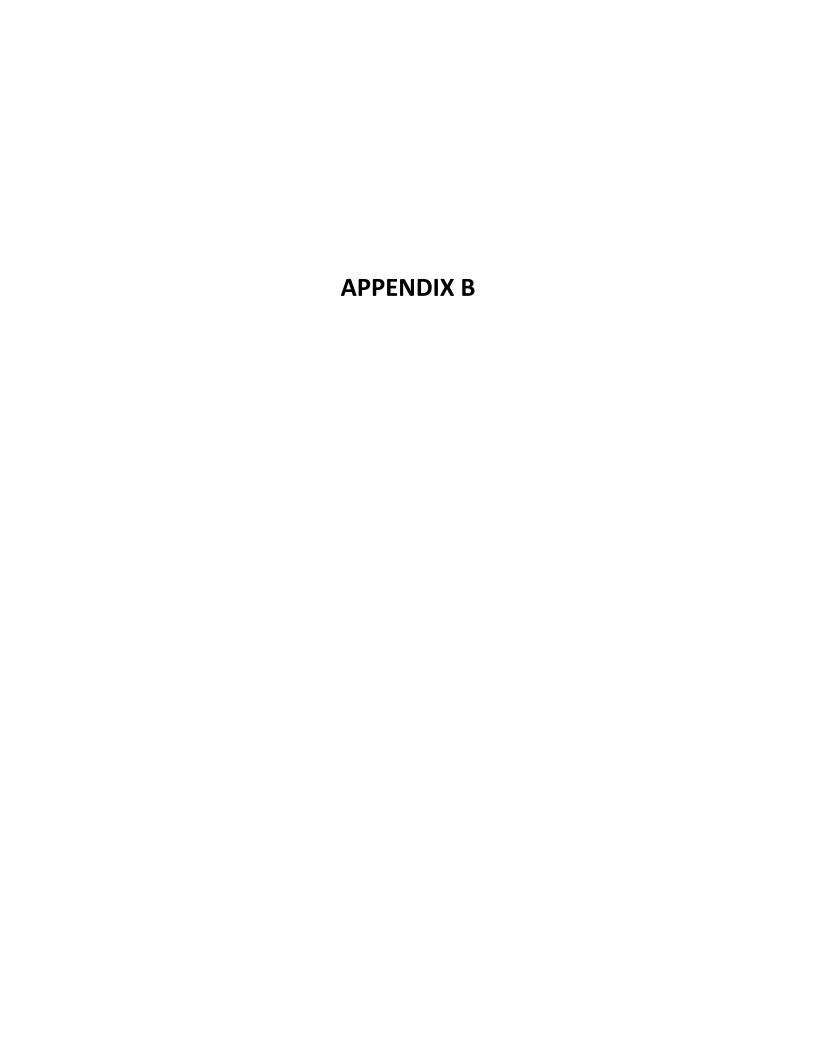
PM<sub>2.5</sub> - particulate matter with a diameter of 2.5 microns or less

SIP - State Implementation Plans

SO<sub>2</sub> - sulfur dioxide

EPA – United States Environmental Protection Agency

VOC - volatile organic compounds



To: Peter Byrne Date: June 23, 2017

Project #: 25762.00

From: Patrick Lenihan, PE Re: Republic Airport

Stratosphere Development Co, LLC

**Traffic Analysis** 

A Traffic Analysis has been performed for the proposed action, consisting of the development and use of Parcels A through E and the Echo Ramp at the Republic Airport by Stratosphere Development Co, LLC ("Stratosphere"). The Traffic Analysis presented herein is based on the projected number of jobs that will be created by the proposed action, as presented in the Response to RFP for the proposed action, dated April 14, 2016. Stratosphere is the bidder ,that provided the Response to RFP and is a Fixed-Based Operator at Republic Airport and Talon Air, Inc. (Talon Air) manages, maintains and repairs aircraft and provides charter services at the Republic Airport. Based on discussions with the representatives of Stratosphere, the nature of Talon Air's activities at the airport after the completion of the proposed action will be substantially the same, allowing for a direct correlation of peak hour trips with employment. Accordingly, the relationship between existing jobs and vehicle trips was used to estimate the future number of peak hour vehicle trips associated with the increase in jobs at the airport due to the proposed action.

To determine if these future increases in traffic levels would result in any significant impact to traffic conditions in or around Republic Airport, the current traffic levels entering and exiting the airport via Grumman Lane (NY RT 110 Access) and Seversky Road (NY RT 109 Access) were counted. These background traffic levels allow for a determination as to the available capacity on the airport roadways to accommodate the projected increases in traffic, as discussed further below.

Based on discussions with Talon Air's representatives, the following three time periods have been identified as peak periods of arriving and departing vehicular activity at their facilities, in large part due to employee arrival and departures:

- > Weekday 7:30 a.m. to 9:30 a.m.
- Weekday 3:00 p.m. to 6:00 p.m.
- > Saturday 9:00 a.m. to 11:00 a.m.

During these three periods, manual traffic counts were performed at the following locations:

- Grumman Lane east of the Molloy College Suffolk Center (NY RT 110 Access)
- Seversky Road west of the Airport (NY RT 109 Access)
- Arrivals and Departures on Seversky Road near Hangars 6 and 7.

A figure depicting the approximate traffic count locations are included in Attachment A, and the detailed counts data are included in Attachment B.

#### **Existing Traffic Conditions**

To document existing levels of vehicular traffic entering and exiting Republic Airport during peak periods, manual traffic counts were performed on Grumman Lane and Seversky Road for the time periods discussed above. Table 1, below, presents the results of these counts for the identified peak hours of entering and exiting traffic within those periods.

Table 1 – Existing Peak Hour Traffic, Entering and Exiting Republic Airport

Project Component	Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday Peak Hour	
Republic Airport Existing Traffic	Entering 142	Exiting 62	Entering 53	Exiting 107	Entering 47	Exiting 26
	Total =	204	Total =	160	Total =	73

It should be noted that the entering and exiting volumes in Table 1 are the combined total of both airport access points.

The peak hour periods of trip generation for the existing activities at Hangars 6 and 7 were identified within the overall peak periods counted. The existing peak hour trip generation for Talon Air's operations is presented in Table 2.

Table 2 – Existing Trip Generation, Talon Air Operations

Project Component	Weekday AM Peak 7:30 a.m. to 8:30 a.m.		Weekday PM Peak 4:30 p.m. to 5:30 p.m.		Saturday Peak 10:00 a.m. to 11:00 a.m.	
	Entering	Exiting	Entering	Exiting	Entering	Exiting
Talon Air Existing Hangers 6 & 7	28	11	8	24	2	5
	Total =	39	Total =	32	Total =	7

As shown in Table 2, the existing operations generate low levels of peak hour traffic with 39 total trips during the weekday a.m. peak hour (28 entering and 11 exiting), 32 total trips during the weekday p.m. peak hour (8 entering and 24 exiting) and 7 total trips during the Saturday peak hour (2 entering and 5 exiting). Even during the highest peak hour in the peak direction (entering during the weekday a.m. peak hour), the trip levels represent an average of less than one trip every two minutes.

#### **Proposed Action Trip Generation**

Representatives of Talon Air have indicated that a total of 179 persons are currently employed at their facilities within Republic Airport. As indicated in the aforementioned RFP, a total of 240 new jobs are anticipated as a result of the proposed action. This represents an increase in employment of 134%, as follows:

% Increase = New Jobs  $\div$  Existing Jobs = 240  $\div$  179 = 1.34 or 134%

Given that the nature of the operations after implementation of the proposed action will be substantially the same, the increases in peak hour vehicle traffic can be estimated directly from the relative increase in employment at the site and the existing peak hour traffic levels. Applying the 134% increase to the existing peak hour trip generation results in the projected peak hour increases presented in Table 3.

Project Component	Weekday AM Peak 7:30 a.m. to 8:30 a.m.		Weekday PM Peak 4:30 p.m. to 5:30 p.m.		Saturday Peak 10:00 a.m. to 11:00 a.m.	
Talon Air Proposed Action	Entering 38	Exiting 15	Entering 11	Exiting 32	Entering 3	Exiting 7
	Total =	53	Total =	43	Total =	10

Table 3 – Proposed Action Trip Generation, Stratosphere Operations

The peak hour trip generation projections in Table 3 represent the increases in vehicle traffic expected to occur due to the proposed action. The projected increases in trip generation are low. Even during the highest peak hour (entering in the weekday a.m. peak hour), the trip levels represent an average of less than one trip every minute when both directions are combined.

It is noted that these trips will arrive and depart the airport using one of two routes; via Grumman Lane to NY RT 110 and via Seversky Road to NY RT 109. Based on existing traffic patterns, it is expected that the majority of this traffic will arrive and leave via Seversky Road and NY RT 109.

#### **Potential Impacts on Traffic Conditions**

Stratosphere's proposed project (the proposed action) will expand its existing operations at Republic Airport, and will result in some increases in peak hour traffic levels at the airport and on the surrounding street network. However, these increases in peak hour traffic are modest, with increases in traffic averaging less than one additional trip per minute associated with the proposed action. Based on traffic counts performed at Republic Airport, existing traffic levels at the airport access points are relatively low, and will remain so if the proposed action is implemented.

#### Conclusion

From the examination of site conditions and the results of the analysis presented above, it is concluded that the airport's internal roadways, access points and the adjacent roadways serving the airport can easily accommodate this additional level of traffic. There would be no significant adverse impact to traffic conditions as a result of the proposed action.

# APPENDIX C

To: Peter Byrne Date: June 23, 2017

Project #: 25762.00

From: Sierra Gaenicke Re: Republic Airport

Stratosphere Development

Noise Analysis

## Introduction

The following report was prepared by VHB on behalf of Stratosphere Development Co. LLC ("Stratosphere") to assess the potential increase in aircraft noise impacts from Stratosphere's proposed development at Republic Airport ("Airport") located in East Farmingdale, New York<sup>12</sup>. VHB used the Area Equivalent Method (AEM) to determine the potential change in noise levels (referred to as contours), based on the projected increase in the total aircraft operations<sup>13</sup> at the Airport resulting from the proposed action. VHB's analysis demonstrates that the induced demand created by the proposed action will not result in a change in existing noise levels.

# **Current and Anticipated Aircraft Usage**

Stratosphere's operation is tailored to accommodate aircraft that operate and are projected to operate at the Airport and its business is structured to service aircraft that are operating at the Airport. Currently, Stratosphere services<sup>14</sup> approximately 5 to 6 aircraft per day that arrive and depart from the Airport. These 5 to 6 aircraft could easily be served by the other FBOs at the Airport. However, the pilots of these aircraft choose to conduct their business with Stratosphere because they prefer the service quality, fuel prices, etc., offered by Stratosphere. Prior to Stratosphere becoming an FBO, those 5 to 6 aircraft were serviced by one of the other FBOs at the Airport.

Although the majority of Stratosphere's business model is designed to serve aircraft operating at the Airport, some modest induced growth in aircraft operations could be anticipated from this development. Recently, Stratosphere has entered into aircraft maintenance and servicing agreements that could result in some aircraft coming to Republic that normally would not have come to the Airport.

As a result of the recent maintenance and servicing agreements, Stratosphere attracts approximately six new aircraft operations per year that would not have operated at the Airport without Stratosphere. Currently, approximately 210,000 annual operations occur at the Airport, based on Federal Aviation Administration figures. With the six aircraft operations attracted by Stratosphere, this equates to approximately .003 percent (6 operations/210,000 total operations). It is anticipated that Stratosphere's proposal will be operational by 2020 at which time annual operations at the Airport will be approximately 212,000. At that time, Stratosphere anticipates being able to attract 10 new aircraft operations per year that would not have operated from the Airport without Stratosphere's facility. This equates to .005 percent of the total operations at the Airport (10 operations/212,000 total operations), or approximately one aircraft operation per month.

<sup>&</sup>lt;sup>12</sup> Response to RFP for the Long-Term Use of Five Development Parcels at Republic Airport, Prepared by Stratosphere Development Co. LLC, April 14, 2016.

<sup>&</sup>lt;sup>13</sup> Aircraft Operation: a landing or a takeoff by an aircraft. Assuming an aircraft that arrives at FRG would at some point depart, each aircraft would result in two operations – a landing and a takeoff.

<sup>&</sup>lt;sup>14</sup> Service or servicing refers to ground handling of aircraft for the purposes of fueling, maintaining, or general catering to the operational needs of the aircraft user.

This induced growth would be in addition to the aircraft that Stratosphere normally services and that would normally come to the Airport anyway. At full build-out in 2020, Stratosphere estimates that it will be able to service 10-12 aircraft per day over the next one to two years, 15 aircraft per day in three to five years, and 20 aircraft per day after five years. These are mostly aircraft that would come to the Airport. The induced growth would be an additional aircraft per month that Stratosphere would be able to attract.

# **AEM Analysis**

In order to assess the potential noise exposure from the proposed development, VHB utilized the FAA's Area Equivalent Method (AEM) Version 7.0d<sup>15</sup> to determine the potential change in noise contours due to the proposed action based on an increase in aircraft operations. The AEM is an initial analysis that is used to determine the need for further noise analysis using the more comprehensive Aviation Environmental Design Tool (AEDT)<sup>16</sup>.

The AEM uses calculations to estimate the change in the 65 DNL<sup>17</sup> noise contour area. DNL is the standard metric used by the FAA and the Department of Housing and Urban Development for identifying noise impacts. Levels that exceed 65, 70, and 75 DNL are considered incompatible with residential, commercial, and industrial uses, respectively. The FAA identifies a seventeen percent (17%) increase in the noise contour area as a significant increase that could result in a DNL 1.5 dBA<sup>18</sup> or greater increase in noise exposure, which would then trigger the need for further noise analyses using the AEDT.

VHB utilized the inputs<sup>19</sup> developed for the noise analysis that was included in the previous 2015 FAA Environmental Assessment<sup>20</sup> as that information is current and reflective of the existing operations at the Airport. The FAA's TAF predicts total annual operations at FRG in 2020 to be 211,849. The AEM uses Landing and Take-off cycles (LTOs) to calculate the change in noise contour area. An LTO is an aircraft arrival *and* departure (i.e., an operational cycle). Total aircraft operations are divided in half to determine the total LTOs. The LTO for each aircraft is then entered into the AEM accordingly.

For the purposes of this study, the AEM was used to compare the Future 2020 No-Build<sup>21</sup> vs. the Future 2020 Build<sup>22</sup>. The Future 2020 Build includes an assumed induced growth. Development at FRG would induce ten (10) additional operations from the implementation of the proposed Stratosphere project. The following steps were taken to determine the potential effect on the noise contour using AEM:

 Operational data from the 2013 INM study that was included in the 2015 FAA Environmental Assessment was adjusted to equal the FAA TAF 2020 total projections (211,849 annual operations) for the 2020 No-Build Alternative. The fleet mix (percentage of operations by each aircraft type) from the 2013 INM study was used for the 2020 No-Build Alternative and the 2020 Build Alternative.

<sup>&</sup>lt;sup>15</sup> https://www.faa.gov/about/office\_org/headquarters\_offices/apl/research/models/aem\_model/

<sup>&</sup>lt;sup>16</sup> The FAA replaced the Integrated Noise Model (INM) with the AEDT model in 2015. The INM was used on the most recent FAA Environmental Assessment at Republic Airport that was completed and approved in June 2015.

<sup>&</sup>lt;sup>17</sup> Day-Night Average Sound Level (DNL) is a 24-hour equivalent sound level. DNL is expressed as an average noise level based on annual aircraft operations for a calendar year.

<sup>&</sup>lt;sup>18</sup> dBA A-weighted decibels, abbreviated dBA, is an expression of the relative loudness of sounds in air as perceived by the human

<sup>&</sup>lt;sup>19</sup> Inputs refers to the aircraft types, engine types, and day time and night time operations occurring at the Airport. The 2015 EIS included a comprehensive noise analysis and this data would not have changed since 2015. Therefore it is suitable to use for the AEM analysis.

<sup>&</sup>lt;sup>20</sup> FINAL ENVIRONMENTAL IMPACT STATEMENT, REPUBLIC AIRPORT, SAFETY, INFRASTRUCTURE AND TENANT IMPROVEMENT PROJECTS, HAMLET OF EAST FARMINGDALE, TOWN OF BABYLON, SUFFOLK COUNTY, NEW YORK: Filed April 2015.

<sup>&</sup>lt;sup>21</sup> No-Build: This pertains to an assumption that the proposed project is not built in the future (year 2020).

<sup>&</sup>lt;sup>22</sup> Build: This pertains to an assumption that the project is built in the future (year 2020).

- 2. LTOs were calculated by dividing the annual operations for each aircraft by two.
- 3. The 2020 No-Build LTOs for each aircraft were entered into the AEM tool.
- 4. Ten (10) additional operations were assigned to the LEAR35<sup>23</sup> aircraft to account for the induced growth associated with the proposed development. The LTO for the LEAR35 was then calculated and entered into the AEM Tool to determine the level of impact to the noise contour area.

# **Results and Conclusion**

Assuming the worst-case scenario, the AEM tool identified an increase of 0% in the total acreage of the 65 DNL noise contour area. Because the change is less than 17%, there would be no significant noise impact resulting from the proposed development. Accordingly, no additional noise analyses are necessary.

<sup>&</sup>lt;sup>23</sup> Manufactured between 1970 and 1994, the LEAR35 is powered by two turbofan engines and is one of the loudest aircraft in the AEM aircraft profile that could potentially operate at FRG. To provide for a worst-case scenario, it was assumed that all operations resulting from the proposed project would be the LEAR35 aircraft.