PIN 0903.50.30R
Runway 1-19 Safety Area Improvements
at Republic Airport

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Introduction

The New York State Department of Transportation (NYSDOT / The Department) has prepared this Technical Memorandum to evaluate whether the Runway 1-19 Safety Area Improvements and connected actions at Republic Airport, as modified by certain changes described herein, would have the potential for significant adverse environmental impacts not previously identified in the proposed project's Final Environmental Assessment (Final EA) / Environmental Impact Statement (EIS) entitled *Proposed Safety, Infrastructure and Tenant Improvement Projects for Republic Airport*, dated April 2015 (2015 Final EA/EIS).

The Proposed Project (known as the "Runway 1-19 Safety Area Improvements") was assessed in the 2015 Final EA/EIS in accordance with the requirements of the Council on Environmental Quality's regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA) (40 CFR [Code of Federal Regulations] §1500-1508), Federal Aviation Administration (FAA) Order 1050.1E, *Environmental Impacts: Policies and Procedures*, FAA Order 5050.4B: *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, and NYSDOT *Procedures for Implementation of the State Environmental Quality Review Act (SEQRA)* (17 NYCRR [New York Codes, Rules and Regulations] Part 15). FAA signed a NEPA Finding of No Significant Impact (FONSI)/Record of Decision (ROD) on May 8, 2015; the NYSDOT signed a SEQRA ROD for the proposed project on July 23, 2015.

The Proposed Project involves improvements to the Runway Safety Area (RSA) of Runway 1/19 to enhance safety in compliance with FAA standards. As detailed in this document, the project consists of three elements: shifting runway 1-19 north by approximately 412 feet, realigning approximately 800 feet of Taxiway Golf to meet the federal runway-separation standard of 300 feet from runway centerline, and obstruction mitigation within airport property including lowering trees or poles and installing obstruction lights. As part of the runway realignment, a portion of the airport's vehicle service road will be realigned to place it outside the new RSA at the north end of the runway. This Project will not extend the length of the runway, nor will it add airfield or terminal capacity to the airport.

The Proposed Project will be funded by NYSDOT and FAA; this Technical Memorandum is being prepared by NYSDOT pursuant to SEQRA. In addition, this Technical Memorandum is being prepared in accordance with the NEPA; CEQ implementing regulations, FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*; and FAA Order 5050.4B: *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. It should be noted that since preparation of the 2015 Final EA/EIS and corresponding FONSI/ROD, the FAA published their updated NEPA implementing guidance, FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* (July 16, 2015). Thus, this Technical Memorandum is being prepared in accordance with this updated Order.

NYSDOT is prepared to proceed with the construction of the Proposed Project, with certain modifications listed in Section B, *Changes to Project Scope*. This Technical Memorandum documents an assessment of the potential impacts of those modifications (referred to as "Proposed Project" or "Proposed Action"), as well as relevant changes in circumstances and new information that has emerged since the 2015 Final EA/EIS. The proposed action in the 2015 Final EA/EIS included the relocation of Hangars 2 and 3 which is no longer part of the Proposed Project. Based upon this assessment, the NYSDOT concludes that the Proposed Project will not result in new potential significant adverse environmental impacts not previously identified in the 2015 Final EA/EIS.

This Technical Memorandum discusses potential direct, indirect, and cumulative impacts resulting from the incremental impact of the proposed design changes in addition to other past, present, and reasonably foreseeable future actions. Potential environmental consequences, including those caused by construction activities, are evaluated for the proposed design changes in accordance with FAA Order 1050.1F.

> **Note**: The evaluation of tenant improvements by SheltAir Aviation, included in the 2015 Final EA/EIS, has not changed and will not be discussed herein. At this time, the tenant improvements are under construction within the Breslau area. Section 3.4.4 of the 2015 Final EA/EIS describes the preferred alternative for modifications to the existing lease area and partial relocation to the Breslau Leasehold area. The alternative included the modification of SheltAir's lease area currently located east of Runway 1/19 to accommodate the RSA project, with facility improvements thereon. The alternative included relocation of a portion of its facilities to the 41-acre lease area at the southern portion of the Airport to provide additional FBO services.

Construction for the SheltAir project in the Breslau area started in July of 2017. Current improvements consist of site preparation including drainage work, utilities, apron paving, parking, signs and markings; construction of two hangars of approximately 33,000 square feet each; and construction of an access road from New Highway. Future plans, consistent with the 2015 Final EA/EIS preferred alternative include the construction of four hangars of approximately 31,200 square feet, an FBO building, a 3,000-square-foot maintenance facility, and the relocation of the fuel farm. While the relocation of the fuel farm was included in the

2015 Final EA/EIS, the tenant has indicated they will not relocate the fuel farm at this time. No additional changes to leases are contemplated in connection with these tenant improvements. Any needed lease adjustments were reflected in Lease Amendment 2 between NYSDOT and SheltAir and approved in March 2015. An ALP pen-and-ink change reflecting these improvements is under review by the FAA.

Project Location and Existing Facilities: Republic Airport is a general aviation/reliever airport owned by the State of New York under the purview of the NYSDOT and located on the east side of New York State Route 110 (State Route 110) and north of New York State Route 109 (State Route 109) in the hamlet of East Farmingdale, Town of Babylon, County of Suffolk, New York.

Republic Airport, which covers an area of approximately 530 acres, has two asphalt paved runways. Runway 14-32 is 6,827 feet long and 150 feet wide, and Runway 1-19 is 5,516 feet long and 150 feet wide. The threshold for Runway 14 is displaced 676 feet in order to maintain a clear glide path over vehicles traveling along State Route 110, and the threshold for Runway 19 is displaced 789 feet due to the location of the former Fairchild Building. Note: The building was removed for the development of Airport Plaza.

Airport Reference Code: Airport design criteria must be identified and applied to properly and consistently plan future airport facilities. Airport design criteria are specified by the Airport Reference Code (ARC). The ARC is a coding system used to relate airport design criteria to the operational and physical characteristics of the aircraft intended to operate at the airport. The FAA requires that airports establish a critical aircraft to be used as a model on which to base their overall airport design standards. The ARC has two components relating to the airport design aircraft. The first component, depicted by a letter, is the aircraft approach category which relates to aircraft approach speed and provides information on the operational capabilities of aircraft. The second component, depicted by a roman numeral, is the airplane design group and relates to airplane wingspan or tail height, whichever is the most restrictive and provides information regarding the physical characteristics of aircraft using the airport. **Table 1** provides a listing of the approach categories and design groups.

TABLE 1
ARC COMPONENT DEFINITIONS

AIRCRAFT APPROACH CATEGORY	
Approach Speed Category	Approach Speed Criteria
A	Speed < 91 Knots
B	Speed > 91 but < 121 knots
C	Speed >121 but < 141 knots
D	Speed >141 but < 166 knots
E	Speed > 166 knots
AIRCRAFT DESIGN GROUP	
Design Group	Wingspan Criteria
I	Wingspan < 49 feet
II	Wingspan > 49 but < 79 feet
III	Wingspan > 79 but < 118 feet
IV	Wingspan > 118 but < 171 feet
V	Wingspan > 171 but < 214 feet
VI	Wingspan > 214 but < 262 feet

Source: FAA Advisory Circular 150/5300-13A, Change 1, Airport Design.

The airport design aircraft for Republic Airport is D-II, which is based on Approach Category D (aircraft with approach speeds between 141 knots and 166 knots) and ADG II (wingspans 49 feet up to but not including 79 feet and tail heights of 20 feet up to but not including 30 feet). The reference aircraft used to determine the Airport Reference Code is the Gulfstream IV.

Changes to Project Scope

In support of the 2015 Final EA/EIS, numerous alternatives to the proposed Runway 1-19 safety area improvements were evaluated and the NYSDOT identified a preferred alternative. Since that time, based on coordination with the NYSDOT and FAA, a revised RSA determination, approved by the FAA on February 1, 2018, states that the RSA of Runway 1-19 will meet standards at 400 feet in width based on FAA Advisory Circular (AC) 150/5300-13A, Change 1, Appendix 7, Footnote 13 (February 26, 2014). The Proposed Action for the Runway 1-19 Safety Area Improvements included herein is a modification of the preferred alternative proposed in the 2015 Final EA/EIS with the RSA width being changed from the optimum width of 500 feet to the permitted width of 400 feet for the runway type. This reduction in RSA width has resulted in the elimination of one project element proposed in the original preferred alternative, the relocation of Hangars 2 and 3 to the south of Hangar 4. Under the modification to the preferred alternative, the hangars will not be relocated and the Project will have no adverse effect on the hangars (see Section VIII).

The 2015 Final EA/EIS included tenant improvements. As noted above, this Technical Memorandum will not include a reevaluation of tenant improvements that were included in the 2015 Final EA/EIS; that Proposed Action has not changed and will not be discussed herein

Thus, the Proposed Project, as proposed in the 2015 Final EA/EIS and as currently proposed, includes the following three project elements (see **Exhibit 1**):

- Runway Safety Area (RSA) Improvements. This component generally includes the shift of Runway 1/19 412 feet to the north to enhance runway safety areas (RSA) at both ends, realignment of the vehicle service road (perimeter road) to avoid runway safety areas, demolition of portions of existing pavement within the RSA and Runway Object Free Area (ROFA),construction of an apron for nine Group I aircraft north of Hangar 2 to mitigate aircraft parking area losses, and the construction of a 34 ft. by 300 ft. vehicle parking area to replace area taken by the small apron.
- Obstruction Mitigation. The Proposed Project will address known existing obstructions within airport property and on adjacent roadway rights-of-way; obstructions outside airport property will be considered in a separate independent project.
- Taxiway G Relocation. This component generally includes the demolition of a portion, approximately 800 feet in length, of the existing Taxiway G currently located within the RSA; an equivalent segment will be constructed to the east of Runway 1/19 to meet runway separation standards.

A comparison of project changes between the Proposed Project and the project as studied in the 2015 Final EA/EIS is presented in **Table 2**.

TABLE 2
COMPARISON OF PROJECT FEATURES – PROPOSED PROJECT VS. FINAL EA/EIS (2015)

Project Element	Proposed Design	Prior Design in Final EA/EIS (2015)
RUNWAY 1-19 SAFETY AREA IMPROVEMENTS		
Shift Runway 1-19 412 feet to the north with a 400-foot wide RSA[1]	Yes	Yes
Fillet widening at renamed connector taxiways	Yes	No
Pavement removal between runways and taxiways off runway ends	Yes	No
Recovery of the displaced threshold on Runway 19	Yes	Yes
Modification of Standards (MOS) for modified ROFA	Yes	No
Changes to existing flight procedures to accommodate new runway threshold	Yes	Yes
Relocate Precision Approach Path Indicators (PAPI) and Runway End Indicator Lights (REILs) for Runway 1-19	Yes	Yes
Relocation of Hangars 2 and 3	No	Yes

[1] The Proposed Action in 2015 Final EA/EIS included an RSA 1,000 feet in length and 500-feet in width. The proposed design change includes an RSA 1,000 feet in length and 400 feet in width.

Project Element	Proposed Design	Prior Design in Final EA/EIS (2015)
Electrical, signage, marking, and lighting improvements	Yes	Yes
Realignment of Vehicle Service Road	Yes	Yes
Realignment of security fence	Yes[1]	Yes
Construction/delineation of new taxilane for parking aprons	Yes	No
Pavement rehabilitation/construction of north apron and vehicle parking area[2]	Yes	No
OBSTRUCTION MITIGATION		
Removal of obstructions	Yes[3]	Yes
TAXIWAY G RELOCATION		
Relocation of Taxiway G	Yes[4]	Yes

As detailed below and on **Exhibit 1**, the design changes to the proposed project since the 2015 Final EA/EIS include:

- **Runway 1-19 Safety Area Improvements**
  - Reduction in the RSA width from 500 feet to 400 feet, per FAA Advisory Circular (AC) 150/5300-13A, Change 1, Appendix 7, Footnote 13 (February 26, 2014).
  - Construction of proposed renamed connector Taxiways B1 and Romeo (R)/G1 (existing M).
  - Construction of proposed renamed connector Taxiways B6 and G9 (existing B4 and G1).
  - Additional pavement removal between runway/taxiways and off the Runway ends.
  - Modification of Standards (MOS) for modified Runway Object Free Area (ROFA).[5] The approved MOS (FAA approval: May 14, 2018) implements a

[1] Modifications were made to the alignment of the Airport fencing to accommodate realignment of perimeter road to ensure the perimeter road is outside of the RSA.

[2] The removal of existing pavement inside the RSA/ROFA will result in the loss of aircraft and vehicle parking space for current tenants. The Proposed Current Design includes the construction of an aircraft apron for nine Group 1 aircraft as well as an approximately 34 ft. by 300 ft. vehicle parking area to mitigate these losses.

[3] Surfaces evaluated in 2015 Final EA/EIS included 14 CFR Part 77 Imaginary Surfaces, Obstacle Clearance Surface (OCS), Departure Surface, and Precision Approach Path Indicator (PAPI) OCS. Surfaces evaluated in 2017 included 14 CFR Part 77 Imaginary Surfaces, TERPS Straight-In Visual Segment 20:1 Obstacle Identification Surface (20:1 OIS), TERPS Straight-In Visual Segment 34:1 Obstacle Identification Surface (34:1 OIS), and Instrument Flight Rule (IFR) 40:1 Departure Surface.

[4] No design changes are proposed; the 2015 Final EA/EIS did not specify a width of the relocated Taxiway G. The relocated portion of Taxiway G will be 35 feet in width.

[5] Modification of Standards: Any deviation from, or addition to standards, applicable to airport design, material, and construction standards, or equipment projects resulting in an acceptable level of safety, useful life, lower costs, greater efficiency, or the need to accommodate an unusual local condition on a specific project through approval on a case-by case basis. (FAA Order 5300.1G – Effective 9/29/17)

change in the minimum-width design standard for an airport with a D-II Airport Reference Code (ARC). Objects non-essential for air navigation or aircraft ground maneuvering purposes such as parked aircraft, will be prohibited within the ROFA. The proposed ROFA will have a total width of four hundred and eighty-six (486) feet, and length of six hundred (600) feet beyond the end of R/W 1, plus an additional four hundred (400) feet using declared distances, for a total of one thousand (1,000) feet.
    - Realignment of Airport fencing.
    - Construction or delineation of new access taxiways Romeo (R) and G1 for parking aprons.
    - Pavement rehabilitation/construction of north apron and replacement vehicle parking area. The proposed vehicle parking area will be outside the Aircraft Operations Areas (AOA).

- **Obstruction Mitigation** (Within Airport Boundaries and on adjacent roadway rights-of-way)
    - Tree topping/removal.
    - Lighting of poles.
    - Burying or lowering of overhead lines.

- **Taxiway G Relocation**
    - Demolition of existing segment, approximately 800 feet in length, of Taxiway G from Taxiway D to Taxiway G4 and construction of an equivalent segment to establish a 300-foot separation to meet runway-taxiway separation standards. The taxiway will be 35 feet wide.

Note: Per guidance provided by the FAA Airports District Office, and to meet the FAA's March 2012, standard, Taxiway B and G connector taxiways are to be renamed as part of the project, as follows (see **Exhibit 1**):

- Existing Taxiway M will be renamed Taxiway B1 west of the Runway 19 end and Taxiway R northeast and G1 east of the Runway 19 end.
- Taxiway Golf (G) connectors are to be renamed to reflect the new Taxiway Romeo / G1-G-9 ascending numerically from the north to south.
- Taxiway Bravo (B) connectors are to be renamed to reflect the new Taxiway B1 – B6 ascending numerically from the north to south.

Runway 1-19 Safety Area Improvements

2015 Final EA/EIS: The project as studied in the 2015 Final EA/EIS included the shifting of the Runway 1-19 threshold north in order to establish standard RSAs (1,000 feet length and 500-foot wide). Runway 1-19 would be shifted approximately 412 feet and the Runway 19 end displaced threshold would be reclaimed in order to maintain the existing runway length of 5,516 feet and primarily to achieve the standard RSA beyond the R/W 19 end (south). The runway shift would not add usable runway length nor does it equate to a runway extension.

The RSA on the Runway 19 end would be brought to standards but adjusted slightly to avoid the access road to the Airport Plaza shopping center from Conklin Street that is situated between the runway and existing buildings to the west of the runway. This narrow strip along the west side of the RSA will intrude 28 feet at its widest point and average 10 feet in width. Hangars 2 and 3 to the east of the Runway 19 end would also be required to be relocated to accommodate a 500-foot wide RSA. This design complied with the RSA Determination, as revised and approved by the FAA on December 22, 2008.

Proposed Design Changes: The Runway 1-19 Safety Area Improvements Project includes several changes to project elements involving the RSA, ROFA, and RPZ.

Runway Safety Area (RSA): Since issuance of the RSA Determination for Runway 1/19 in 2008, a revision was made to the FAA Advisory Circular 150/5300-13A, *Airport Design*. Change 1 of FAA Advisory Circular 150/5300-13A (February 26, 2014) states that a 400-wide RSA is permissible; thus, the FAA and NYSDOT determined that it is practicable to improve the RSA so that it will meet current standards by providing a 400-foot wide RSA. A revised RSA determination was issued by the FAA on February 1, 2018. This determination concludes that the existing Runway 1-19 RSA can be improved to enhance safety by providing the RSA minimum acceptable dimensions 1000 ft. in length and 400 ft. in width, in connection with the runway shift.

Runway Object Free Area (ROFA): The FAA definition of this term states that "[T]he runway object free area (OFA) is centered on the runway centerline. The runway OFA clearing standard requires clearing the OFA of above ground objects protruding above the runway safety area edge elevation... Except where precluded by other clearing standards, it is acceptable for objects that need to be located in the ROFA for air navigation or aircraft ground maneuvering purposes to protrude above the nearest point of the RSA, and to taxi and hold aircraft in the ROFA."[1] ROFA design standards for an airport with a D-II ARC require a minimum width of 800 feet, a minimum length of 600 feet prior to threshold for aircraft taking off, and a minimum length of 1,000 feet beyond the departure end of the runway for aircraft departing the runway. Due to the presence of numerous structures in the proximity of Runway 1/19 and the limited land (real estate) available, it is not practicable to provide a standard ROFA for this runway.

In accordance with FAA regulations, an airport must submit a request for a modification of design standards for (among other reasons) any proposed deviations from standards during the review of airport design and siting standards or any proposed design elements on an airport project not meeting standards. Accordingly, on March 13, 2018, the airport submitted a request for a Modification of Standards (MOS, see definition on page 6) for the Runway 1/19 ROFA. The request was approved by FAA on May 14, 2018. Under the approved MOS, the ROFA for Runway 1/19 will be 486 feet in width. Based on calculations of acceptable safety margins for the airport's design aircraft (Group II aircraft), the approved modification of the

[1] FAA AC 150/5300-13A (2/26/14)

standard ROFA in conjunction with the implementation of declared distances will provide an acceptable level of safety by providing sufficient protection to an aircraft's overhanging fuselage and/or wingspan, if an aircraft was positioned at the lateral limit of the standard RSA.

Declared Distances. Declared Distances represent the maximum distances available and suitable for meeting takeoff, aborted takeoff, and landing distances performance requirements for turbine powered aircraft. The declared distances are Take Off Run Available (TORA) and Take Off Distance Available (TODA), which apply to takeoff; Accelerate Stop Distance Available (ASDA), which applies to an aborted takeoff; and Landing Distance Available (LDA), which applies to landing.

In summary, Declared Distances definitions involve the following:

- **Takeoff Run Available (TORA)** – distance from beginning of ground roll to gear-up rotation point;
- **Takeoff Distance Available (TODA)** – distance from beginning of ground roll to end of pavement;
- **Accelerated-Stop Distance Available (ASDA)** – distance from beginning of ground roll to either the RSA or 1,000 feet from the far end of pavement (whichever is greater); and
- **Landing Distance Available (LDA)** – distance from landing threshold to either RSA or 1,000 feet from the far end of pavement (whichever is greater).

Declared distances will be used for runway 1/19, in conjunction with the ROFA MoS, to provide an adequate level of safety and meet the clearing standard of 1,000 feet beyond the end of Runway 1. Using Declared Distances is indicated due to the presence of several structures which are located within the standard ROFA including the airport perimeter fence, retaining wall, off-airport commercial building(s), public roadways, vehicle parking area(s), street light and utility pole(s), trees.

The declared distances for existing Runway 1-19 are as follows:

Runway	TORA	TODA	ASDA	LDA
1	5,516'	5,516'	5,516'	5,516'
19	5,516'	5,516'	5,516'	4,727'

The declared distances for proposed Runway 1-19 will be as follows:

Runway	TORA	TODA	ASDA	LDA
1	5,516'	5,516'	5,116'	5,116'
19	5,516'	5,516'	5,516'	5,516'

Runway Protection Zones (RPZs): The function of a RPZ, as defined in FAA Advisory Circular 150/5300-13A-Change 1, is to "enhance the protection of people and property on the ground." According to FAA Advisory Circular 150/5300-13A-Change 1, "It is desirable to clear

all objects from the RPZ" although some uses are permitted provided they do not attract wildlife, are outside the ROFA, and do not interfere with navigational aids (NAVAIDs). Examples of land uses prohibited within the RPZ include fuel storage facilities, places of public assembly (i.e., religious institutions, schools, hospitals, etc.), and residences.

The FAA recommends that the Sponsor have adequate control over interests in the RPZ, in that the FAA encourages Sponsors to have this control through Fee Simple ownership. When a runway threshold is displaced (see below), separate approach and departure runway thresholds are created, which requires separate approach and departure RPZs. By reclaiming the current displaced threshold as part of this project, the airport will eliminate the need for two separate RPZ areas. Both the approach and departure RPZs extend from a point 200 feet from the respective runway approach and departure thresholds. The dimensions of the approach RPZs are a function of the aircraft approach category and approach visibility minimums associated with the approach runway end. The departure RPZ is a function of the aircraft approach category and departure procedures associated with the runway. For a particular runway end, the more stringent RPZ requirements, usually the approach RPZ requirements, will govern the property interests and clearing requirements the airport owner should pursue. Currently, portions of the approach and departure RPZs for Runway 1 and Runway 19 fall outside of the Airport property (see **Exhibits 2 and 3**). To date, no MOS has been applied or issued for this non-standard condition.

Obstruction Mitigation

Mitigation of obstructions under the Proposed Design will focus on maximizing the improvements to the RSA for Runway 1/19. As detailed in the *Proposed Design Changes* section below, this approach involves addressing those mitigations that are necessary to meet RSA, ROFA and approach/departure standards through this project, and identifying those that are not necessary to implement the current Project and that can be considered as part of a separate, independent action. Based on the mitigation strategy proposed below, the airport will be able to implement the Proposed Project and meet RSA standards without the need of additional measures (e.g. a displaced threshold).

Obstructions not addressed in this project are those that are outside of the airport property, but which do not prevent the implementation of this project as proposed. Any impacts from those obstructions on Part 77 surfaces, airport design standards and TERPS would be evaluated in coordination with the FAA to determine if future flight procedures will be affected. That effort will involve aerial mapping to the FAA's Airports Geographic Information Systems (AGIS) standards, acquisition of rights to mitigate those obstructions (easements), and preparation of NEPA documentation. As required by FAA standards presented in Advisory Circular 150/5300-18C, any obstruction evaluation effort will include the preparation of a GIS survey. NYSDOT will coordinate with the FAA Airports District Office (ADO). And ADO will coordinate with other FAA Lines of Business to review and revise flight procedures for runway 1/19 that will be effective after the implementation of this project.

2015 Final EA/EIS: In support of the 2015 Final EA/EIS, an obstruction analysis for the runway configuration was performed in 2006 and 2008 and the obstructions to Runway 1-19 within the extent of available mapping were identified. The 2015 design did not include evaluations of the objects surveyed in the approaches; therefore, mitigation was not discussed and analyzed to the same degree as it was done for the 2017 obstruction analysis. The following surfaces were included in the obstruction analysis:

- **14 CFR Part 77 Imaginary Surfaces**: 14 CFR Part 77 requires that the imaginary surfaces that extend above the ground around all sides of the runway, be kept clear of all obstructions to aviation. The primary surface is longitudinally centered on the runway and is 500 feet wide and extends 200 feet off each runway end. The approach surface is longitudinally centered on the extended runway centerline and extends outward and upward from each end of the primary surface. See Figure 1 for illustration. The dimensions of the approach surface are based on the type of approach. For a non-precision approach, as on Runway 1-19, the approach surface extends 10,000 feet at a slope of 34:1. The transitional surface extends outward and upward at a slope of 7:1 from the sides of the primary and approach surfaces up to the horizontal surface which is at the elevation of 150 feet above the established airfield elevation.

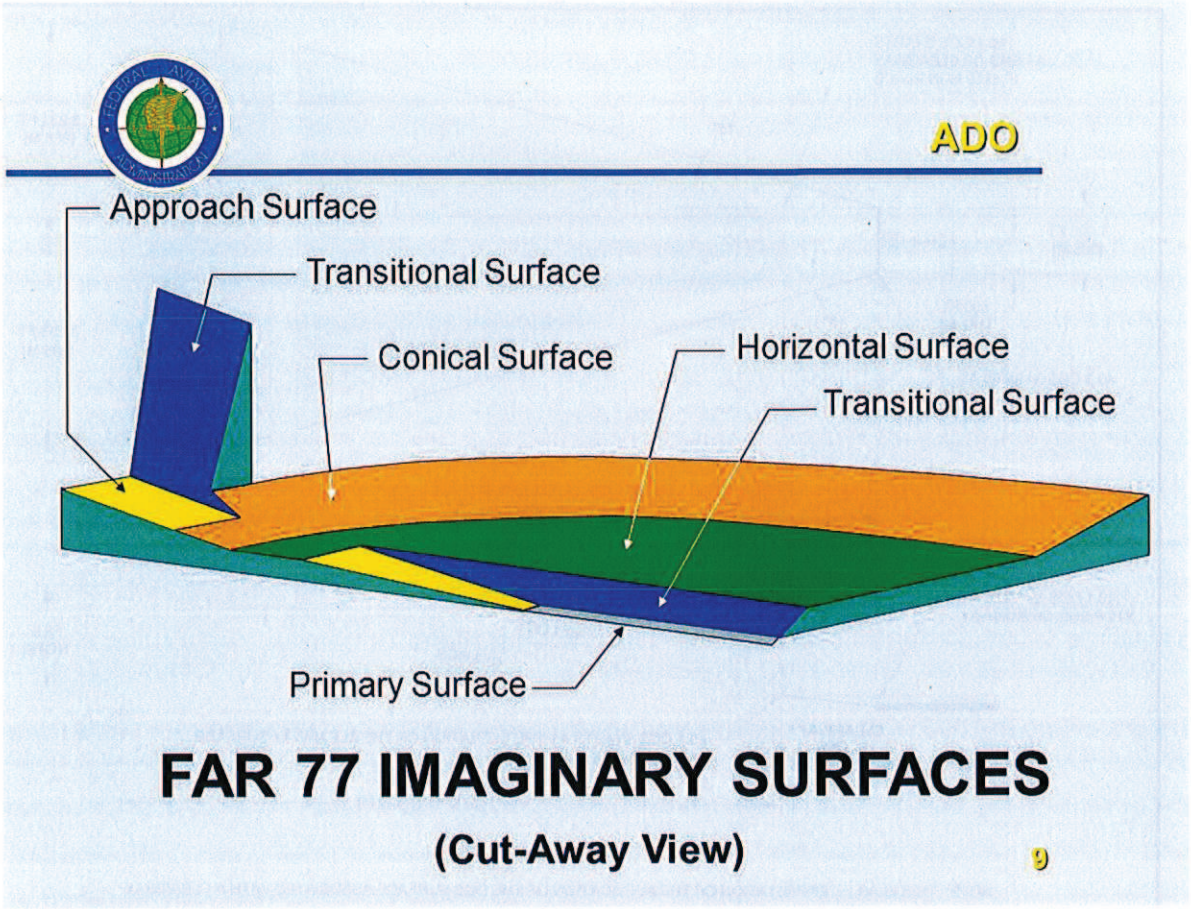

Figure 1 - Source: FAA Airports Division, Western Pacific Region

- **Obstacle Clearance Surface (OCS):** The OCS is an inclined obstacle elevation surface associated with a glidepath. The separation between this surface and the glidepath angle at any given distance from the ground point of intercept defines the minimum required obstruction clearance at that point. The OCS starts 200 feet from the end of the pavement and extends 10,000 feet at a slope of 20:1.

- **Terminal Instrument Procedures (TERPS) Instrument Flight Rules (IFR) 40:1 Departure Surfaces**: The Departure Surface starts at the departure threshold with an inner width of 1,000 feet and extends 10,200 feet at a slope of 40:1. Figure 2 shows an example of the 40:1 OCS.

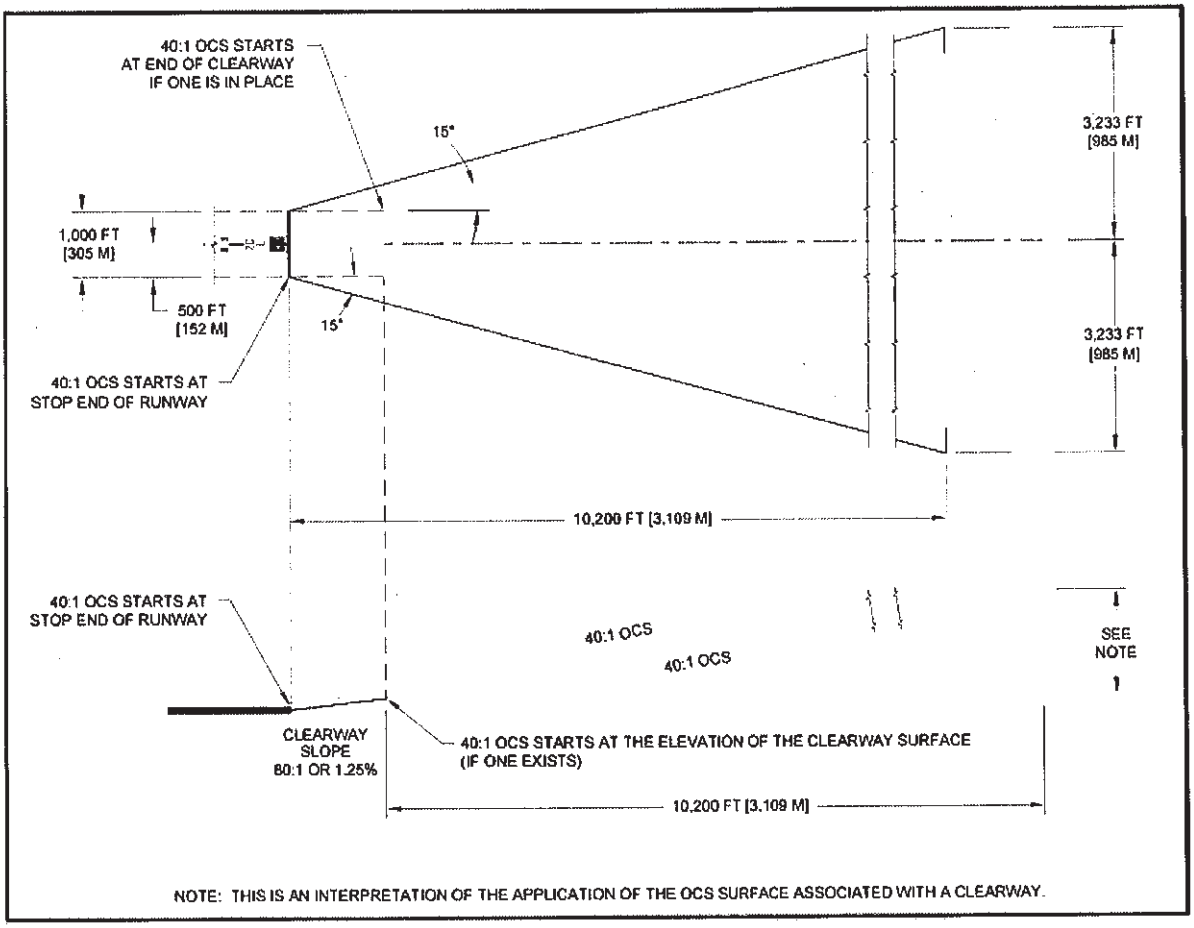

Figure 2 - Source FAA AC 150-5300-13A-chg1, p. 53

- **Precision Approach Path Indicator (PAPI) Obstacle Clearance Surface (OCS):** A PAPI is a system of either four or two identical light units placed on the side of the runway in a line perpendicular to the centerline. The boxes are aimed to produce a visual signal that tells the pilot whether the aircraft is above, below, or on the glide path. The PAPI must be positioned and aimed so no obstacles penetrate its surface. The PAPI OCS provides the pilot with a minimum approach clearance. PAPI OCS begins 300 feet in front of the PAPI. The PAPI OCS is projected into the approach zone one degree less than the aiming angle of the third light unit from the runway. See Figure 3.

The obstruction analysis in support of the 2015 Final EA/EIS determined that vegetation and structures (including utility and light poles, building and rooftop mechanical equipment) had the potential to impact several of the surfaces listed above.

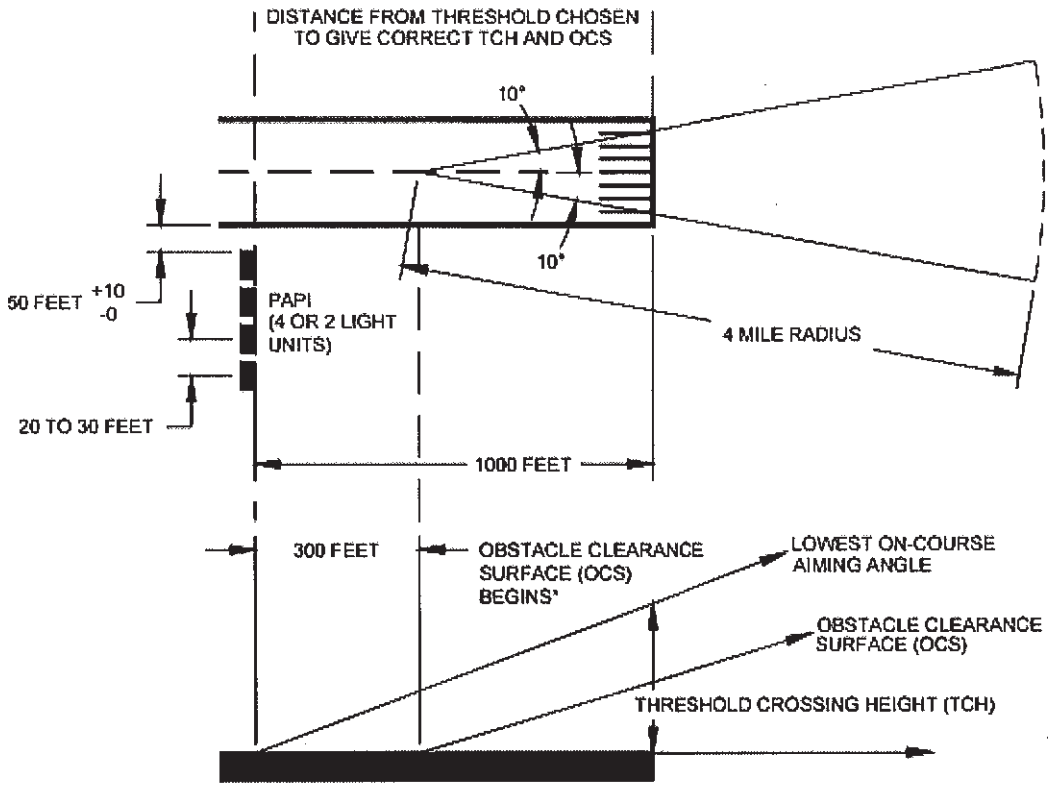

Figure 3 - Source: FAA Order JO 6850.2B, p.5-7

Proposed Design Changes: In support of the proposed design changes, an obstruction analysis was completed in 2017 based on aerial mapping obtained in 2016. The following surfaces were used in the analyses:

14 CFR Part 77 Imaginary Surfaces: (described above)

TERPS Straight-In Visual Segment 20:1 Obstacle Identification Surface (20:1 OIS): The 20:1 OIS surface begins at a point centered on and 200 feet from the extended runway threshold. The beginning elevation of the surface is the same as the Runway threshold and the beginning width of the surface is 200 feet to each side of the Runway centerline. The sides of the surface splay outward relative to the Runway centerline and can be calculated with the equation ½ width = (0.15 x distance from the surface origin) plus 200. The 20:1 OIS surface extends outward and upward from its origin for a distance to the Decision Altitude Point for each precision approach (PA) or Approach with Vertical Guidance (APV) procedure and to the visual decent point (VDP) location (even if one is not published) for Non-precision approach (NPA) procedures.

TERPS Straight-In Visual Segment 34:1 Obstacle Identification Surface (34:1 OIS): The 34:1 OIS surface begins at a point centered on and 200 feet from the extended runway threshold. The beginning elevation of the surface is the same as the Runway threshold and the beginning width of the surface is 200 feet to each side of the Runway centerline. The sides of the surface splay outward relative to the Runway centerline and can be calculated with the equation ½ width = (0.15 x distance from the surface origin) plus 200. The 34:1 OIS surface extends outward and upward from its origin for a distance to the Decision Altitude Point for each PA or APV procedure and to the VDP location (even if one is not published) for NPA procedures.

TERPS IFR 40:1 Departure Surface: Departure surfaces, when clear, allow pilots to follow standard departure procedures. Where declared distances are not being reported, the departure surface elevation starts at the Departure End of Runway (DER) elevation. DER is also referred to as the stop end of runway. Except for runways that have a designated clearway, the departure surface is a trapezoidal shape that begins at the end of the TODA and extends along the extended runway centerline and with a slope, starting at the elevation of the end of the TODA, of 1 unit vertically for every 40 units horizontally (40:1). The comparable TERPS surface is the Departure OCS

Obstructions to the future 412-foot shifted Runway 1-19 ends have been identified in both the 2015 Final EA/EIS as well as part of the Runway 1-19 RSA design project as currently proposed. The obstructions identified within the 2015 Final EA/EIS are identified as both vegetative and manmade obstructions in the Runway 1-19 plan and profiles **(see Exhibits 4 and 5)**. These profiles along with the Obstruction Data Tables **(Exhibit 6)** also identify the Runway 1-19 design project obstructions. Although the 2015 Final EA/EIS obstruction locations are not identical to the obstructions identified within the recent obstruction analysis, they are in the general locations with the same parcel impacts. These differences in vegetative obstructions can be attributed to the random selection of the high points within tree stands which depend on the aerial mapper's point selection method.

Obstructions delineated within the Runway 1-19 plans are based upon the 97 objects that penetrated 14 CFR Part 77 surfaces in the initial 2017 obstruction analysis (based on mapping flown in summer 2016) which were subsequently filed as 7460-1 case submittals. These 97 7460-1 submittals all received determinations from the FAA Airports District Office as to their potential impacts to flight procedures. From these determinations, mitigation plans were developed for those objects determined to have a negative impact on future flight procedures.

Table 3 defines the 97 cases and associated proposed mitigation.

Table 3
Obstruction Mitigation Actions

	OBSTRUCTION LIGHTING	PAPI INSTALLATION	PER APPROVED ROFA MOS	REMOVE/LOWER TREES/SIGNS	NO ACTION
Necessary to Implement Current Project	25	12	10	2	49 of 97
Not Necessary to Implement Current Project	19	0	0	28 TOTAL TREES (22 TREES IN CEMETERY) 1 SIGN LOWERED	13 of 97
Note: PAPI installation as mitigation must be approved by the FAA Flight Standards Office.					

Mitigation actions for the objects impacting flight procedures include the use of obstruction lighting, PAPI installation, ROFA MOS, remove or lower trees and 1 lowering of a hangar sign in the approach to Runway 1. It should be noted that the mitigation actions add up to 99 cases in total. This is due to some objects being penetrations to multiple surfaces, therefore requiring multiple mitigation actions. No action cases include 11 of the original 97 cases of which three can be attributed to trees having been removed since the 2015 mapping was flown, two existing objects that were determined to be already obstruction lighted and six that were determined not to require mitigation.

- **Obstruction Lighting:** Obstruction lights are to be installed on structures that are unable to be lowered or removed and where lighting is viable alternative (certain structures may not allow obstruction lighting). Other measures to be considered for mitigation include using airfield Navigational Aids (NAVAIDs)[1], adjusting approach procedures, or through runway reconfigurations. Twenty-five of the obstructions that the FAA recommends to be mitigated using obstruction lights are on state-owned property or adjacent roadways and will be mitigated as part of the Proposed Project. The mitigation of the remaining 19 obstructions located on property owned by third parties is not necessary to implement the Proposed Project as these obstructions do not impact the RSA or the modified ROFA. These obstructions impact the runway's approach procedures (impacts to procedures for all filed objects are known at this time) and will be considered under a separate independent mitigation design. NYSDOT will coordinate with the NY ADO to initiate the process to evaluate approach procedures and implement revisions as needed.

- **PAPI Installation:** While other measures, including adjusting the approach procedures, obstruction lighting, or runway reconfigurations can be used to mitigate obstructions, the installation of PAPIs on both Runways 1 and 19 as part of the Proposed Project will be employed as mitigation of the Table 3-2 Approach/Departure Standards Table, Type 5

[1] A Navigational Aid (NAVAID) is a device or system which provides guidance to the pilot and the aircraft. Examples of NAVAIDS include Very-high frequency omnidirectional ranges or VORs, the Global Positioning System or GPS, precision approach path indicators or PAPIs.

Runway OCS (AC 150/5300-13A change 1 Airport Design). As previously noted, installation of a PAPI must be approved by the FAA Flight Standards Office. Per the AC, marking and lighting of obstacle penetrations to this surface or the use of a Visual Guidance Slope Indicator (VGSI), as defined by Order 8260.3, may avoid displacing the threshold. The installation of PAPIs in the Proposed Project will mitigate all twelve obstructions that were found to penetrate the Runway Type 5 OCS surface.

- **ROFA MOS:** Ten objects are found within the standard 800-foot-wide ROFA of Runway 1-19, in accordance with Aircraft Approach Category (AAC) D and Airplane Design Group (ADG) II. By reducing the ROFA width for Runway 1-19 from 800 feet to 486 feet, the approved ROFA MOS will mitigate these objects. All ten objects within the standard D-II ROFA will be mitigated under the Proposed Project and the approved MOS. The modified ROFA provides an acceptable level of safety as supported by extensive FAA and NYSDOT analysis of the geometry required to accommodate a deviation of airport's design aircraft, ADG II. As detailed in the MOS submission "Positioning the main gear of the design aircraft at the lateral limit of the RSA, the proposed modified Runway Object Free Area (ROFA) will adequately protect any part of the aircraft extending into the ROFA, including an additional ten (10) feet of clearance. The lateral limit of the proposed modified ROFA for the design aircraft including clearance, would need to extend forty-three (43) feet beyond the lateral limit of the RSA, yielding a proposed modified ROFA width of four hundred and eighty-six (486) feet."

- **Remove/Lower Trees/Signs:** A total of 30 trees and one sign were found to be obstructions to one or multiple surfaces. Two of the 30 trees deemed to be obstructions are on Airport property and will be removed or lowered as part of the Proposed Project. As with obstruction lighting (discussed above), removal or lowering of the remaining 28 trees and the one sign located off-Airport property is not necessary to implement the Proposed Project as they do not impact the RSA or modified ROFA. The trees may require mitigation in the future as Part 77 analysis is conducted and if it is determined that the trees affect departure or approach surfaces. Any impacts from these obstructions to approach and departure procedures, as well as any potential environmental issues related to mitigation of obstructions will be considered under a separate independent effort.

Taxiway G Relocation

2015 Final EA/EIS: The Proposed Project evaluated in the 2015 Final EA/EIS involved the relocation of a portion (approximately 800 feet) of Taxiway G 90 feet to the east to a proposed 300-foot runway/taxiway centerline separation between Runway 1-19 and Taxiway G. The proposed taxiway separation will meet ARC D-II criteria.

Proposed Design Changes: No design changes are proposed; the 2015 Final EA/EIS did not specify a width of the relocated Taxiway G. The relocated portion of Taxiway G will be 35 feet in width.

Potential Impacts Resulting from the Proposed Project Scope Changes and New Information That Has Emerged Since the 2015 Final EA/EIS

The following section compares the potential environmental impacts of the Runway 1-19 Safety Area Improvements Project, as currently proposed, to the impacts identified in the 2015 Final EA/EIS.

Since issuance of the FONSI/ROD, the FAA has updated its Order that determines the process to conduct environmental review of proposed Federal Actions. FAA Order 1050.1F, as well as the corresponding Desk Reference, was issued on July 16, 2015. Given the slight changes in FAA Order 1050.1F, this section of the Technical Memorandum will mirror those impact categories in FAA Order 1050.1F and discuss the potential environmental impacts proposed in the 2015 Final EA/EIS in comparison to the current proposed design changes.

Purpose and Need

2015 Final EA/EIS: The proposed safety area improvements are to enhance safety in compliance with FAA requirements as the current configuration of Runway 1-19 does not meet FAA design standards for safety area. It also does not meet FAA separation standards for approximately 800 linear feet of Taxiway G located north of the intersection with Runway 14-32. Changes to the safety area and runway/taxiway centerline are necessary to improve and enhance safety. Additional purposes are to remove obstructions to navigable airspace.

Proposed Design Changes: The Proposed Project meets the purpose and need identified in the 2015 Final EA/EIS. However, although there is no change in the overall purpose and need as part of this Technical Memorandum; supplemental information has been provided in this Technical Memorandum to more accurately identify the proposed actions and corresponding purpose and need.

As stated above, the proposed safety area and infrastructure improvements will enhance safety in compliance with FAA requirements as the current configuration of Runway 1-19 does not meet FAA design standards for safety areas. Specifically, the runway does not meet FAA design standards for the 1,000-foot RSA (beyond Runway ends). It also does not meet FAA separation standards for approximately 800 linear feet of Taxiway G located north of the intersection with Runway 14-32. Changes to the safety area and runway/taxiway centerline separation are necessary to improve and enhance safety. The ARC for Republic Airport is D-II, which is based on Approach Category D (aircraft with approach speeds between 141 knots and 166 knots) and ADG II (wingspans 49 feet up to, but not including, 79 feet and tail heights from 20 feet up to, but not including, 30 feet). The RSA components of the project were proposed in order to comply with the congressional mandate of the statutory requirement for airports certificated under 14 CFR Part 139 to improve their RSAs to comply with FAA

standards no later than December 31, 2015. To satisfy the congressional mandate, the airport implemented limits on the size of aircraft that could use the runway. Pilots and airport users were notified per standard practice using Notices to Airmen (NOTAMs)[1]. This restriction will remain until the Proposed Project is completed and the runway meets RSA standards.

Thus, the purpose of the proposed actions is to meet FAA design standards for an ARC D-II facility and to provide safe and efficient aviation facilities for the type of aircraft currently using the Airport over the foreseeable future. Since the purpose for pursuing improvements at Republic Airport is to provide safe and efficient aviation facilities, the existing facility was reviewed to determine if it could safely accommodate current and future aviation demands based on ARC D-II design standards. The proposed improvements are needed to:

- Adhere to FAA design standards and improve safety by enhancing the RSA of Runway 1-19;
- Protect public safety by removal of obstructions as specified by FAA Flight Procedures; and
- Comply with FAA design standards by increasing the runway (Runway 1-19) to taxiway (Taxiway G) separation distance.

Comply with FAA design standards and improve safety by enhancing the RSA of Runway 1-19

The FAA AC 150/5300-13, Change 1, Airport Design, defines a RSA as an area that is designed to reduce the extent of personal injury and aircraft damage in the event of landing short or over-running the runway. According to FAA Order 5200.8, Runway Safety Area Program, the required RSA at an airport is based on the characteristics (approach speed and wingspan) of the aircraft that are expected to use the airport. For ARC D-II, for runways with minimums as low as 1-mile, the permissible RSA is 400 feet wide centered on the runway and extends 1,000 feet off the end of the runway. This area is to be cleared, graded, and free of objects, except for objects that need to be located in the safety area because of their function. It must also be capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

A written determination of the best practicable alternative for improving non-standard RSAs is required by the FAA airport regional division offices, as discussed in FAA Order 5200.8, Runway Safety Area Program. The objective of this program is for all RSAs at federally

[1] A Notice To Airmen or NOTAM is a notice containing information (not known sufficiently in advance to publicize by other means) concerning the establishment, condition, or change in any component (facility, service, or procedure of , or hazard in the National Airspace System) the timely knowledge of which is essential to personnel concerned with flight operations. (FAI FSS - NOTAM Overview, Alaska FAA Webpage)

obligated airports conform to the standards contained in FAA AC 150/5300-13A Change 1 to the extent practicable.

Beginning in 1999, the FAA inventoried all commercial service runways at all airports certificated under 14 CFR Part 139 (which includes Republic Airport) to:

- Document all objects and natural features in each standard RSA that could create a hazard for aircraft that leave the runway surface.
- Develop a preliminary plan for improving RSAs to the maximum extent practicable.
- Identify incremental improvements that could reduce the potential hazard to aircraft when a full standard RSA was not practicable.

In 2000, the FAA began a nationwide initiative to accelerate RSA improvements at all Part 139 airports that did not meet RSA requirements. By Congressional mandate, all RSAs at Part 139 airports must be in compliance with FAA design standards by December 31, 2015.

An RSA study conducted in 2006 determined that the RSA for Runway 1-19 did not meet then-current standards. Currently, the RSA for Runway 1-19 does not conform to FAA design criteria for the aircraft using this runway. The RSA currently measures 575 feet in advance of the south approach end to Runway 1 and 290 feet beyond the approach end to Runway 19. The approach end of Runway 1 does not have a standard 1,000-foot RSA due to the existence of NY Route 109. The approach end of Runway 19 has sufficient space for a standard 1,000-foot safety area at 400-feet width, as permitted by FAA Advisory Circular (AC) 150/5300-13A, Change 1.

The FAA's RSA Determination, approved on September 29, 2006, concluded that the existing Runway 1-19 RSA can be improved to enhance safety by extending the RSA to the required 1,000 feet length (and 500-foot width). To achieve this RSA, the Determination concluded that Hangars 2 and 3 would need to be relocated. This Determination was based on FAA criteria identified in FAA AC 150/5300-13A. The RSA determination was revised and approved on December 22, 2008 following additional planning analysis and the limitations caused by the Airport Plaza shopping center situated to the northwest of Runway 1-19.

Since issuance of the revised Determination in 2008, a revision was made to the FAA AC 150/5300-13A. In FAA AC 150/5300-13A, Change 1, Appendix 7, Footnote 13 (February 26, 2014), a RSA width of 400 feet was deemed permissible for ARC D-II with 1-mile visibility minimums. Based on this change, the February 1, 2018 FAA-approved revised RSA Determination concluded that the existing Runway 1-19 RSA can be improved to enhance safety by extending the RSA to the required 1,000-foot length with a 400-foot width. The 400-foot wide RSA would allow the hangars to remain in place in conjunction with the use of a modified ROFA. This change will avoid the extensive effort required to relocate Hangars 2 and 3 in order to obtain a 500-foot wide RSA for Runway 1-19,

With respect to the ROFA, in addition to the RSA, the ROFA is also defined around runways to enhance the safety of aircraft operations. The FAA defines the ROFA as an area clear of

above ground objects protruding above the RSA edge elevation. Unlike the RSA, there is no physical component to the ROFA. Thus, there is no requirement to support an aircraft or emergency response vehicles. ROFA design standards for an airport with a D-II ARC, requires a minimum width of 800 feet, a minimum length of 600 feet prior to threshold, and a minimum length of 1,000 feet beyond the end of the runway. A modified ROFA is discussed on Page 6 of this document.

Existing aircraft parking on the east side of Runway 1-19 is located in several areas, including north and west of Hangar 2, on the ramp between Hangars 2 and 3, along the west side of Hangar 3, along the Ramp between Hangars 3 and 4, and along ramps located to the south of Hangar 4 (see Exhibit 1).

Per FAA AC 150/5300-13A Change 1, Paragraph 307 states that a RSA must be free of objects, except for objects that need to be located in the RSA because of their function. Per FAA AC 150/5300-13A, Change 1, Paragraph 309 states that ROFA clearing standards requires the clearing the ROFA of above ground objects protruding above the nearest point of the RSA. Per FAA AC 150/5300-13A Change 1, Paragraph 404 states that taxiway and taxilane clearing standards prohibit parked aircraft from being located within the TOFA.

In accordance with these requirements, 59 aircraft spaces and 37 automobile parking spaces currently located within the proposed Runway 1-19 RSA and ROFA and the Taxiway G Taxiway Object Free Area (TOFA) will be eliminated. While not all aircraft and vehicle parking areas can be replaced due to current space limitations, as part of this proposal, the airport will replace approximately 75,000 square feet of apron space for nine Group I aircraft and approximately 9,000 square feet to accommodate 24 automobile parking spaces north of Hangar 2 lost as a result of the RSA project. The apron space will include approximately 25,000 square feet of reconstructed pavement. The new aircraft spaces will be located in a space currently used as vehicle parking area. To mitigate the losses of vehicle parking spaces, a new paved area for vehicles is proposed north of the new aircraft apron. This parking lot will be located outside of the AOA (outside the perimeter fence) and will not require filing an airspace case. The sponsor is discussing potential avenues with tenants to address the aircraft and vehicle spaces not mitigated in this project. Any changes to parking areas will be implemented separately from this project and will be negotiated with the tenants.

Protect the flying public by removing obstructions as specified by FAA Flight Procedures

In support of the 2015 Final EA/EIS, an obstruction analysis for the current runway configuration was performed in 2006 and 2008 and the obstructions to Runway 1-19 within the extent of available mapping were identified.

Any objects determined to penetrate the 14 CFR Part 77 surface are to be evaluated further for potential impacts to both the approach and departure procedures. The obstruction analysis completed in 2017 identified 97 objects cases that were determined to penetrate 14 CFR Part 77 and were to be evaluated further. Subsequently, FAA Form 7460-1 was filed for each of

the 97 cases that penetrate 14 CFR Part 77 with the Obstruction Analysis/Airport Airspace Analysis Portal through the FAA. The disposition of the obstructions is discussed in a prior section.

The proposed project is needed in order to protect public safety and be in compliance with FAA provisions defined in Federal Aviation Regulation (FAR) Part 77.19, Civil Airport Imaginary Surfaces, and FAA Advisory Circular 150/5300-13A-Change 1, as well as federal grant obligations. In accepting FAA Airport Improvement Program funds for the Airport, the NYSDOT has assured the FAA in Grant Assurance 20, Hazard Removal and Mitigation, that the NYSDOT will take appropriate action to assure that the airspace required to protect operations to the Airport will be adequately cleared and protected. The NYSDOT, as Airport Owner, is required to remove, relocate, or lower objects to preclude their penetration unless an object is fixed by function (e.g., a navigational aid) and/or the object is designated by the FAA to be impractical to remove, relocate, or lower.

The FAA has advised the airport that changes may be required if the following surfaces are penetrated:

- 20:1 OIS: limit visibility to no lower than 5000 RVR or 1 SM, do not publish a VDP, and if the obstacle is unlighted, annotate the chart to deny the approach or the applicable minimums at night.
- 34:1 OIS: limit visibility to no lower than 4000 RVR or ¾ SM.
- 40:1 Departure Surface: Non-standard climb rates to the departure procedures, and/or non-standard (higher) departure minimums and reduction in the length of the TODA.

Compliance with FAA Design Standards (Taxiway G)

Currently, approximately 2,785 feet of Taxiway G from Runway 14-32 to renamed Taxiway M (existing Taxiway G Runway 1 end connector) has the appropriate runway centerline to taxiway centerline separation and meets FAA design safety standards. Approximately 800 feet of the remaining portion of Taxiway G north of the intersection of Runway 14-32 has a separation with Runway 1-19 of 210 feet. Since Taxiway G is an ARC D-II taxiway, the current runway/taxiway centerline separation for the portion north of the intersection of Runway 14-32 does not meet the standard required separation of 300 feet, while the portion of Taxiway G to the south of the intersection of the runways meets FAA design safety criteria.

The standard runway/taxiway separation for ARC D-II, according to AC 150/5300-13, Change 1, is 300 feet. This distance is required to ensure that no part of an aircraft on the taxiway centerline is within the runway safety area or penetrates the Runway Obstacle Free Zone (OFZ), which is a volume of airspace centered above the runway centerline. The OFZ clearing standards preclude the taxiing and parking of aircraft as well as object penetrations except for frangible navigational aids, the location of which is fixed by function.

The Proposed Project will correct this condition by relocating the non-standard portion of the taxiway to the required separation.

Air Quality

2015 Final EA/EIS: As studied in the 2015 Final EA/EIS, the proposed Runway 1-19 safety improvements, obstruction removal, and Taxiway G shift would not create an increase in air emissions other than those associated with construction. Based on an air quality analysis completed, no significant adverse air quality impacts will occur as a result of the proposed action.

Proposed Design Changes: Suffolk County remains a moderate non-attainment area for the Ozone National Ambient Air Quality Standards promulgated by US Environmental Protection Agency (USEPA). The air quality analysis previously conducted for the 2015 Final EA/EIS disclosed short-term construction related emissions of ozone precursors and concluded that these emissions will not cause or contribute to a violation of the National Ambient Air Quality Standards for Ozone per the General Conformity Regulations of the Clean Air Act. The air quality analysis performed to date is representative of the currently proposed project and no new or significant air quality impacts will result.

Biological Resources

2015 Final EA/EIS: The 2015 Final EA/EIS concluded that the proposed NYSDOT safety improvements will not result in significant adverse impacts to biotic communities; forests; or federal and state rare, threatened, or endangered species or, their habitat. The study concluded that the proposed RSA and Taxiway G improvements are located within paved or grassed areas with no net increase in impervious surface. The selected tree removal associated with the obstruction removal will not significantly impact the existing tree stands.

Proposed Design Changes: Project scoping performed on the US Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) online system identified several federally protected species that may occur within the project area: Northern Long-eared bat (mammal- threatened) (NLEB); piping plover (bird - threatened); red knot (bird -threatened); roseate tern (bird-endangered); sea beach amaranth (flowering plant – threatened); and sandplain gerardia (flowering plant - endangered). Although the USFWS indicated the potential for the federally threatened piping plover, red knot, and sea beach amaranth to occur on or near the project sites; the open beach habitat needed by these species does not exist on project sites, which are either developed or vegetated. In addition, except for the piping plover, no critical habitat has been designated for any of these species. For the piping plover, although there is designated critical habitat for this species, the proposed design changes are outside of the critical habitat. In addition, the IPaC system stated that there are no wildlife refuges or fish hatcheries located within the project area. This information can be found in Appendix A.

NYSDOT reviewed the New York Natural Heritage Program (NYNHP) database on September 28, 2017 relative to the project limits (the Republic Airport property boundary). The results of the NYNHP database review indicated no Federal or State listed species were identified within proximity to the site as to require further coordination with New York State Department of Environmental Conservation (NYSDEC).

Wildlife within the project areas may experience minor, short-term disturbance from construction activities and associated noise. The proposed design changes will not impact any federally or state-listed species, convert designated critical habitat, or have substantial impacts to non-listed species that were not identified in the 2015 Final EA/EIS.

The proposed design changes would not be located near or create a wildlife hazard as defined in FAA's Advisory Circular 150/5200-33 "Hazardous Wildlife Attractants on or Near Airports".

There will be no significant adverse impacts that were not evaluated or disclosed in the 2015 Final EA/EIS to biotic communities; forests; federal or state rare, threatened, or endangered species, their habitat or other ecological resources.

Coastal Resources

2015 Final EA/EIS: Republic Airport is not within a New York State Coastal Management Zone.

Proposed Design Changes: No change.

Department of Transportation Act, Section 4(f)

Section 4(f) of the U.S. DOT Act of 1966 (now codified at 49 U.S.C. § 303) stipulates that USDOT agencies cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless there is no feasible and prudent avoidance alternative to the use of land and the action includes all possible planning to minimize harm to the property resulting from such use. The FAA uses the implementing regulations at 23 CFR Part 774, issued by the Federal Highway Administration and the Federal Transit Administration.

Section 4(f) properties include:

- parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public;
- publicly owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public; and
- historic sites of national, state, or local significance in public or private ownership regardless of whether they are open to the public.

There are no publicly-owned parks, recreational areas, or wildlife and waterfowl refuges located within the Project limits. Based on FHWA guidance (Section 4(f) Policy Paper 2012), publicly owned land is considered to be a Section 4(f) park, recreation area or wildlife and waterfowl refuge only when the land has been officially designated as such by a Federal, State or local agency, and the officials with jurisdiction over the land determine that its primary purpose is as a park, recreation are, or refuge. The St. Charles/Resurrection Cemeteries are outside the project limits, and have not been designated as a park or recreation area.

Section 4(f) historic sites were identified in consultation with the New York State Historic Preservation Office (SHPO) as part of the Section 106 process for the Project in 2009-2010 (see section VIII). Hangars 2, 3 and 4, located in the northeast portion of Republic Airport, were found eligible for the National Register of Historic Places as contributing components of a small historic district. As studied in the 2015 Final EA/EIS, the Project involved the removal of Hangars 2 and 3 from their existing locations within the ROFA and the RPZ to ensure compliance with FAA safety standards for RSA improvements. The proposed removal of the historic structures resulted in an adverse effect finding under Section 106, and was determined by FAA to constitute a use of Section 4(f) lands. Based on review of the Draft Section 4(f) Evaluation, the United States Department of the Interior (DOI) concurred, noting that measures to minimize harm were included in a Section 106 Memorandum of Agreement (MOA) developed in consultation with the SHPO (DOI: April 9, 2014).

Under the current project scope, the Project will retain Hangars 2 and 3 in their existing locations, a change from the Project as studied in the 2015 Final EA/EIS. Safety improvements to the Runway 1-19 RSA will be achieved through modifications to the RSA width in conjunction with the use of a modified ROFA. Based on these modifications, the Project no longer requires the permanent incorporation of Section 4(f) properties into the transportation facility. This change is supported by the results of a structural analysis performed by an outside engineering firm for NYSDOT in 2017. An engineering assessment of the hangars concluded that it was not feasible, nor prudent, to move the hangars due to their structural condition and high risks of moving the structures.

As modified, the Project offers a feasible and prudent avoidance alternative, as defined in 23 CFR 774.17. As modified, the Preferred Alternative will avoid the use of Section 4(f) properties, and will not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) properties. The avoidance of Section 4(f) lands is a beneficial change from the Project as studied in the 2015 Final EA/EIS.

Farmlands

2015 Final EA/EIS: Republic Airport does not contain any pasturelands, croplands, or forests considered to be prime or unique, or statewide or locally important lands. The Airport is

mapped with four soil types: Urban Land (Ur), Haven loam, 0 to 2 percent slopes (HaA), Riverhead sandy loam, 0 to 3 percent slopes (RdA) and Cut and Fill land (CuB).

Proposed Design Changes: Soil survey information is regularly updated and posted to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey. Thus, the Web Soil Survey was accessed September 2017 to confirm that there have been no changes to the soil types identified at Republic Airport. The findings of the Web Soil Survey show the soil types to be consistent with the findings of 1975 Soil Survey as reported in the 2015 Final EA/EIS.

According to 7 CFR Part 658.2, the Farmland Protection Policy Act (FPPA) does not apply to land already committed to "urban development or water storage" (i.e., Airport developed areas), regardless of its importance as defined by the USDA NRCS. In addition, there is no active farming on Airport property and the area has been extensively developed with airside and landside facilities. The proposed design changes do not involve conversion of farmland to non-agricultural use. Therefore, implementation of the Proposed Action has no potential to affect prime or unique farmlands and no additional analysis is required.

Hazardous Materials, Solid Waste, and Pollution Prevention

2015 Final EA/EIS: There are no known hazardous waste contamination sites or solid waste storage located within the NYSDOT project areas of the RSA improvements, Taxiway G relocation, or obstruction removal.

Proposed Design Changes: In accordance with FAA Order 1050.1F, the FAA has identified factors to consider in evaluating the potential impacts from hazardous materials, solid waste, or pollution prevention. Factors to consider include, but are not limited to, situations in which the proposed action or alternative(s) would have the potential to:

- Violate applicable Federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management;
- Involve a contaminated site, including but not limited to a site listed on the National Priorities List. Of note, not all the grounds within the boundaries of a contaminated site may be contaminated, which leaves space for siting a facility on non-contaminated land within the boundaries of a contaminated site.
- Produce an appreciably different quantity or type of hazardous waste;
- Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity; or
- Adversely affect human health and the environment.

The proposed project design changes will not have an impact on any of the identified factors listed above.

An Environmental Due Diligence Audit (EDDA) is not required per FAA Order 1050.19B for real estate transactions involving an easement where the FAA is not performing any operations on the property per the agreement/easement. The Airport is not acquiring any property through fee simple acquisition; any avigation easements needed for mitigation of off-airport obstructions will be considered as part of a separate independent project to address those obstructions.

Historical and Cultural Resources

In consultation with the New York State Historic Preservation Office (SHPO), historic properties were identified as part of the Section 106 process in 2009-2010. Hangars 2, 3 and 4, located in the northeast portion of Republic Airport, were determined eligible for the National Register of Historic Places as contributing components of "an industrial district (see attached Resource Evaluation (Revised) dated 2/19/10 in Appendix A)."

As studied in the 2015 Final EA/EIS, the project involved the removal and relocation of Hangar 2 and Hangar 3, located within the Runway Object Free Area (ROFA) and the Runway Protection Zone (RPZ). Removal of the hangars was determined necessary to ensure compliance with FAA safety standards as established by the RSA determination for Republic Airport, approved by FAA on December 22, 2008. As documented in a Memorandum of Agreement (MOA), executed among the FAA, SHPO and NYSDOT in 2014, the Project would entail the removal of Hangars 2 and 3 and would result in an Adverse Effect on the historic properties. The MOA stipulated that Hangars 2 and 3 would be moved to the south side of Hangar 4 in mirror image.

1. Establish the Undertaking: Changes to the Project Scope

The Project is subject to review in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implementing regulations, 36 CFR Part 800: *Protection of Historic Properties*. Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties. The FAA is responsible for Section 106 compliance.

The current scope of work for the Runway 1-19 Safety Area Improvements modifies the Preferred Alternative as previously reviewed under Section 106 and evaluated in the 2015 Final EA/EIS. These modifications include:

- RSA width: Based on a revision to the FAA Advisory Circular 150/5300-13A, Airport Design, and the RSA determination approved by FAA, the RSA width will be 400 feet in accordance with current standards for this runway category.

- Modification of Standards (MOS) for modified ROFA: For structures located within the standard ROFA, a MOS was approved on May 14, 2018 to decrease the width of the ROFA from the applicable design standard of 800 feet to 486 feet. The approved modification of the standard ROFA in conjunction with the implementation of declared distances will provide an acceptable level of safety for the design aircraft for this runway.

- Renamed connector Taxiways B1 and Romeo (R) /G1 (existing M), and Taxiways B6 and G9 (existing B4 and G1).

- Additional pavement removal between runway / taxiways and from the Runway ends.

- Realignment of Airport fencing to accommodate construction of perimeter road outside of the RSA.

- Construction or delineation of new access taxiways Romeo (R) & G1 for parking aprons.

- Pavement construction of an apron and a vehicle parking area north of Hangar 2.

2. *Identification of Historic Properties*

Ground-disturbing construction activities will occur within areas previously disturbed by the construction of the existing airport facilities and infrastructure. There will be no impact to intact natural soils with the potential for archaeological deposits.

Historic properties were identified as part of the Section 106 process, in consultation with the SHPO in 2009-2010. As documented in the SHPO Resource Evaluation (Revised 2/19/10), Hangars 2, 3 and 4, located in the northeast portion of Republic Airport, were found eligible for the National Register of Historic Places under Criteria A and C as contributing components of a small historic district remaining from the Fairchild/ Seversky and Republic Aviation manufacturing era, ca. 1923-1960.

All currently proposed project activities will occur within the airport property. Therefore, the area of potential effects (APE) under the modified scope remains limited to the Republic Airport property. No additional historic properties were identified within the Project's APE.

3. *Assessment of Effects*

The Project's effects on historic properties were assessed in a draft *Amendment to the Section 106 Finding Documentation* prepared by NYSDOT dated February 8, 2018 (see Appendix A). The Finding Documentation describes the identified historic properties and applies the criteria of adverse effect in accordance with 36 CFR §800.5(a)(1). Under the modified scope of work, the Project will preserve the existing grouping and spatial relationships among the hangars in their original configuration adjacent to Runway 1-19. There will be no direct physical impacts to the historic district's three contributing structures, Hangars 2, 3 and 4, and no alteration in

the character of their use or physical features that contribute to their National Register eligibility.

As a result, the NYSDOT recommends to the SHPO and FAA that the Project will have No Adverse Effect on historic properties, in accordance with 36 CFR 800.5(b).

4. Resolve Adverse Effects

As modified, the Project will have No Adverse Effect on historic properties. This is a beneficial change, avoiding adverse effects identified through previous Section 106 consultation and addressed in the 2014 MOA. Hangars 2 and 3 will be retained in their existing locations, a change from the Project as studied in the 2015 Final EA/EIS. Based on this assessment, the existing Adverse Effect finding for the Project is no longer valid, thereby eliminating the need to carry out the undertaking in accordance with the terms of the MOA. Therefore, the executed MOA will be terminated in accordance with Stipulation 18.

Land Use

2015 Final EA/EIS: The planned NYSDOT projects will not result in significant adverse land use impacts.

Proposed Design Changes: For this Technical Memorandum, land use compatibility was analyzed with respect to noise impacts and property interest requirements.

Since there will be no additional aircraft noise or related impacts as a result of the proposed design changes, land use compatibility impacts would not change with the proposed design changes.

Natural Resources and Energy Supply

2015 Final EA/EIS: Energy requirements associated with projects involving improvements to airfield and landside facilities normally fall into two categories: those related to increased consumption from stationary facilities (i.e., additional buildings requiring heating, cooling, and other energy consuming systems) and those involving substantial increases in aircraft and ground vehicle movement and their related fuel consumption. The proposed NYSDOT safety projects would not increase energy consumption directly or have an effect on energy supply or natural resources. In fact, energy consumption will likely decrease due to the replacement of the current runway and taxiway lights with more energy-efficient LED lights.

Proposed Design Changes: The proposed design changes will not increase energy consumption directly or have an effect on energy supply or natural resources. The decrease in energy consumption will remain with the proposed design changes.

Noise and Compatible Land Use

2015 Final EA/EIS: A Noise Analysis was prepared in support of the 2015 Final EA/EIS to establish the baseline conditions and to evaluate the potential adverse noise impacts associated with the projected increases in SheltAir operations in conjunction with the Airport safety improvement projects.

Proposed Design Changes: The 2015 Noise Sensitivity Analysis, accepted by the FAA, compared 2013 operational data with the operational data used in the original noise assessment. This analysis concluded that an increase in aircraft operations, as determined from the FAA Traffic Flow Management System Counts, FAA Terminal Area Forecasts (TAF), and FAA Operational Network data, did not result in any noise impacts to noise-sensitive land uses. The 2015 Noise Sensitivity Analysis operational counts obtained from these FAA sources resulted in modeling 203,906 annual aircraft operations. The original noise analysis operational levels were obtained from Airport Landing Fee Reports and resulted in 110,696 annual modeled aircraft operations.

Current aircraft operation counts obtained from the Airport specific landing fee reports indicates that in 2016, the Airport experienced 155,036 annual aircraft operations. The 2016 FAA TAF for FRG records approximately 193,000 annual aircraft operations in 2015 and predicts over 210,000 in 2016 and 2017. The FAA TAF numbers are obtained from the FRG Air Traffic Control Tower (ATCT) reports, but as previously noted in the 2015 Final EA and the Noise Addendum, the ATCT counts, and therefore the FAA TAF, contain not just aircraft arriving and departing from FRG, but also aircraft handled by the ATCT as they transit the airspace.

The numbers provided by FRG via the landing fee reports is considered to be the more accurate count because FRG charges a landing fee for all aircraft arriving at the airport, including any based aircraft returning to FRG. These landing fees assist FRG in meeting maintenance costs for pavement repair and upkeep.

A review of fleet mix used for the previous noise studies completed at FRG indicate that jet aircraft accounted for approximately 17.5 percent of the aircraft operations in 2007, 39 percent in 2013 and a predicted 42 percent in 2018. A review of the current aircraft recorded by the landing fee reports, even assuming all of the unidentified aircraft are jet operations, only 12.4 percent of aircraft operations are jet or turbine power aircraft, with 75.2 percent single engine piston and the with turbo props, multi-engine piston and rotary wing aircraft accounting for the remaining 12.4 percent. This reduction in jet aircraft operations, with the addition of the phase out of all noise Stage 2 jet aircraft will lead to lower noise levels.

There are multiple factors that influence the size of the area impacted by the noise contours without adjusting for operational characteristics, such as day/night split and runway utilization. The most impactful include total number of aircraft operations and fleet mix. The current aircraft operations data for FRG indicates that the total number of aircraft operations is lower than previously analyzed in the 2013 Noise Analysis and the 2015 Noise Addendum. The data also indicates that not only is there a lower percentage of jet aircraft operations, but overall the number of jet aircraft operations is lower when compared to the previous analysis years, including 2007, as shown in Table 4.

Table 4
Aircraft Operations at FRG

Year	Aircraft Operations	Jet %	Jet Operations
2007	110,693	17.5	19,371
2013	127,633	39.0	49,777
2018	169,250	42.0	71,085
2020	115,397	24.0	27,695
2025	124,045	25.0	31,011
Current	155,036	12.4	19,228

Source: 2009 Noise Impact Study, including 2013 Noise Impact Analysis Addendum. AECOM, 2017.

The noise impacts calculated in the 2015 Final EA/EIS analysis and the 2015 Noise Sensitivity Analysis remain a valid depiction of the noise environment at the Airport, and the proposed design changes will not result in changes to noise impacts to noise sensitive land uses. Additionally, any analysis in other resource categories in which the noise contour is used, also remain valid as the 2015 Final EA/EIS contour does not incorporate any noise sensitive land uses. The factors leading to this determination are:

- Current levels of aircraft operations at FRG are lower than aircraft operations used for the 2015 Noise Sensitivity analysis,

- The existing fleet mix indicates operations by the louder jet aircraft have been reduced considerably as a percentage and in total when compared to the previous noise studies, and

- The proposed design changes are not expected to result in any increase or any changes in aircraft operations or latent demand for aircraft operations.

Socioeconomic Impacts, Environmental Justice, and Children's Health and Safety Risks

2015 Final EA/EIS: The 2015 Final EA/EIS concluded that the planned Airport improvements will not require or cause the relocation of residences or businesses, the division or disruption of established communities, or the disruption of orderly, planned development outside of the Airport boundary. With respect to the alteration of surface transportation patterns by aircraft within the Airport boundaries, the Airport's planned safety area improvements, including the shift of Runway 1-19 landing thresholds and the relocation of portions of Taxiway G, will not affect surface patterns. The planned Airport improvements will have no effect on long-term employment. However, temporary construction jobs would be created. The proposed relocation of Runway 1-19 will shift the threshold 412 feet to the north of its current location. At a 3-degree glide slope, the altitude on approaches would be 52 feet greater for every 1,000 linear feet of distance. As such, the altitude on approaches when traveling above the identified environmental justice (EJ) District boundaries (south from State Route 109, to the east of the Suffolk County line and west of New Highway, and as far south as County Road 12 [Oak Street]) would be slightly higher (about 20 feet) than the current altitude, thus resulting in a slight positive impact on this EJ District.

With respect to Children's Health and Safety Risks, the nearest property is the West Hollow Middle School, located at 250 Old East Neck Road in the hamlet of Melville, Town of Huntington, and is located approximately 2.37 miles (12,500± linear feet) to the north-northeast of the Airport and over one-half mile east of the approach to Runway 19. When passing the school, the glide slope is approximately 750 feet above ground elevation. The proposed runway shift and displaced threshold will result in a glide slope of approximately 700 feet above ground elevation. The potential noise impacts were evaluated and found that in the build years, the 65 DNL would not extend into any properties considered to be incompatible with Airport use. The potential air quality impacts were also evaluated and no significant adverse air quality impacts were identified.

Proposed Design Changes: No homes, businesses, or farms will be displaced by the proposed design changes. In addition, the design changes will not have an effect on long-term employment. The Proposed Action will not divide or disrupt an established community. No local (off-airport) surface transportation patterns will be altered.

No environmental health risks or safety risks will result from the proposed design changes that adversely affect any person of any age; therefore, there will be no disproportionate effects on children.

Visual Effects

2015 Final EA/EIS: The PAPIs and REILs on each end of Runway 1-19 will need to be relocated when the runway is shifted. Specifically, the PAPI must be sited and aimed so that it defines an approach path with adequate clearance over obstacles and a minimum threshold crossing height. Both PAPIs to the Runway 1- 19 approaches at Republic Airport currently are calibrated for standard 3-degree glide angles with threshold crossing heights of 35 feet on the Runway 1 approach and 39 feet on the Runway 19 approach. Therefore, both the Runway 1-

19 PAPI facilities will need to be moved approximately 412 feet north to maintain the current 3-degree PAPI glide path to the shifted approach thresholds.

As with the PAPI facilities, both approaches will require relocation of the REILs to the proposed shifted approach thresholds. The proposed relocation of the PAPIs and REILs will not result in an increase in light emissions (i.e., there would not be an increase in the number or intensity of lights) at Republic Airport nor would the surrounding community be subject to adverse visual impacts.

To evaluate the potential visual impacts from off-Airport properties, the "State Environmental Quality Review Visual EAF Addendum" was completed in support of the 2015 Final EA/EIS. As identified on the Visual EAF Addendum, of the resources evaluated, the project site would be visible from only State and local roadways. Specifically, the proposed improvements will be visible from along State Route 109, New Highway and Conklin Street.

Proposed Design Changes: Light emissions include any light that emanates from a light source into the surrounding environment. Examples of sources of light emissions include airfield and apron flood lighting, navigational aids, terminal lighting, parking facility lighting, and roadway lighting. No new airfield lighting systems are proposed.

Potential visual impacts of the Proposed Action were considered in accordance with FAA Order 1050.1F. The areas of consideration include areas of extent of earthmoving required to construct the Proposed Action, the design of proposed new facilities, and the overall aesthetic integrity of the area. The extent of earthmoving process during construction of the proposed project will create a temporary visual disturbance of the landscape to the passersby. No new projects are proposed; therefore, the proposed design changes will not have new potential significant adverse impacts.

Water Resources

2015 Final EA/EIS: Coordination with the USEPA regarding the project area's location in a Sole Source Aquifer confirms that there will be no essential changes in the public drinking water and wastewater utilities provided to the airport. Overall, the proposed NYSDOT safety improvement projects would result in a net decrease of 153,000 square feet of impervious surface. As such, the volume of stormwater runoff would decrease. The Airport currently relies on drywells and other subsurface structures (e.g., leaching pools) to accommodate stormwater. Additionally, grass areas receive stormwater. Where necessary, drywells and/or other subsurface structures would be relocated and/or installed to accommodate stormwater local to the drainage area. Thus, no significant adverse impacts associated with stormwater runoff are expected.

There are no NYSDEC-designated freshwater wetlands on the subject property, no federally-regulated wetlands, and, no surface waters exist at the site. As such, there are no impacts to same associated with the Proposed Action. As the subject property does not lie within a special flood hazard area, no impacts associated with flood zones are expected. In addition, there are no wild and scenic rivers that would be impacted by the Proposed Action in the 2015 Final EA/EIS.

Proposed Design Changes: The changes to the project design will not result in new potential significant adverse impacts that were not evaluated or disclosed in the 2015 Final EA/EIS, as seen in **Exhibit 7**. The 2015 Final EA/EIS had originally accounted for the demolition of impervious area at the end of Runway 1 and Taxiway G between existing Taxiways D and G4 for a total decrease in impervious area of 153,000 SF. In comparison, the 2017 proposed work includes the same demolition as the 2015 Final EA/EIS in addition to the Runway 19 Blast Pad and portions of the apron areas in front of Hangars 2, 3, and 4 that are within the proposed Runway 1-19 OFA for a total decrease in impervious area of 441,701 SF. The current-design proposed work has 288,701 SF less impervious area than the scope included in the 2015 Final EA/EIS. As such, the volume of stormwater runoff will decrease.

Cumulative Impacts

The cumulative impacts resulting from the implementation of the proposed design changes have been assessed for projects on and off the Airport. The geographic boundary of the analysis generally includes the existing Airport property and adjacent properties where impacts would occur. The temporal boundary (timeframe) for the analysis extends five years into the past (2012-2017) and into the future through the aviation activity forecast period (2017-2031). The following is a list of past, on-going, and reasonably foreseeable projects within the defined geographic area and timeframe. See **Exhibit 8** for the proposed Airport Layout Plan.

Past Projects: Airport projects and upgrades to existing facilities necessary for maintaining the airport in a state-of-good repair are typically excluded from the need for further analysis under NEPA. These projects are, by definition, minor projects which do not individually or collectively have a significant impact on the environment; therefore, no further analysis is required for categorically excluded projects. Over the past five years, the following projects have occurred at the Airport:

- Taxiway Bravo Relocation
- Acquire land for approaches (land acquisition in proximity of Runway 1-19
- Acquire Aircraft Rescue & Firefighting Vehicle
- Improve ARFF Building (Replace Doors)
- Above ground Fuel Farm construction and auto parking at FBO
- NYS Police Troop L Helipad

- Windsock (Runway 32 end)
- New Vehicle Service Road in old Delta ramp area
- Runway 14-32 Airfield Surface Painted Markings
- Airport Main Terminal Entrance Door Replacement
- Airport Guide Sign and Wayfinder Signs (Landside)
- Joint Sealing – Runways and various Taxiways

Ongoing Projects: The following projects are currently ongoing at the Airport:

- Remove, replace, and relocate Airport Rotating Beacon
- Airport Main Terminal Parking Lot Drainage (Landside)
- Airport Main Terminal Lighting upgrade to Energy Efficient Lighting (Landside)
- Breslau Hangar/FBO Development
- Main Terminal Generator Underground Fuel Tank Removal and Replacement with above ground tank
- Security Cameras for New Highway Fence line
- Drainage Structure replacement on SheltAir's Main Ramp Area Bravo and Delta Ramp and Alpha Ramp
- Repaving Ramp and Parking Lot at Atlantic FBO

Reasonably Foreseeable Projects: Within the next five years, in addition to those projects that are discussed in the 2015 Final EA/EIS and this Technical Memorandum (see Section B), the following projects are proposed at the Airport or immediately surrounding area.

- Development of Five Parcels of Airport Property
  - In February 2016, NYSDOT issued a Request for Proposals (RFP) to invite applications from interested parties to develop these parcels. The RFP included five undeveloped parcels at the airport. Leases for the five parcels were approved by the Office of the State Comptroller on January 5, 2018. Development is subject to FAA review and approval. A briefing meeting was held with the FAA ADO on April 11, 2018 where NYSDOT provided details of the proposed developments. A submission including 30-percent plans, draft Environmental Assessment document, Airport Layout Plan pen-and-ink change and airspace case will be submitted in the future.
- On December 2017, SheltAir proposed improvements to an area (approximately 49,500 square fee) within their leasehold east of Runway 1/19, in the vicinity of Hangar 4, consisting of work to recondition pavement (no new pavement). The Sponsor's plans for additional improvements in this area will be detailed once the RSA project plans are finalized as specific impacts to the leasehold won't be known until RSA design is approved by the FAA. As this proposed work consists of pavement reconditioning, it is not new construction, and it is not connected to the RSA project. Any future plans submitted by the tenant will be evaluated accordingly and submitted to the FAA for review, as appropriate.
- Rehabilitation of Taxiway A, Taxiway A1, and Taxiway A8 including reconstruction of signage and markings, and edge lighting

    - FAA signed CATEX on file
- Runway 14-32 Obstruction Mitigation, Construction
- Rehabilitation of Runway 14-32 including reconstruction of signage and markings, and edge lighting
    - FAA signed CATEX on file
- Northeastern Construction Hangar #45 New FBO and Fuel Farm
- Survey and mitigation of obstructions not addressed in this project will be undertaken within an estimated timeframe of two years after completion of the RSA project.

Many of the identified past, current, and reasonably foreseeable projects involve an increase in pavement. Regarding water quality, the greatest effect would be an increase of impervious surfaces that trap pollutants and increase runoff to receiving waterways, as there is a general correlation between new pavement and reduction in water quality due to increased runoff. Therefore, it would be imperative that Best Management Practices are employed for all projects, including the Proposed Action, to minimize these potential effects.

With respect to noise, there will be no change in the noise environment in the vicinity of the Airport if the Proposed Action and the proposed design changes were implemented. It is anticipated the area surrounding the Airport would remain in its present state and no other major off-airport developments were identified. The Proposed Action will not generate substantial aircraft noise impacts and short-term construction noise increases are not expected to be severe. Therefore, the noise impacts of the Proposed Action, when considered in addition to noise impacts of other on- or off-airport projects are not expected to lead to additional substantial cumulative noise impact.

The Proposed Action will not result in significant increases in emissions or adverse impacts to noise, visual or other resources that are likely to create cumulative effects when combined with other past, present, or recently foreseeable actions. Further, for each of these projects, impacts to resource categories have been or would be mitigated per regulatory agency requirements. With these considerations in mind, implementation of the Proposed Action along with other past, present, or reasonably foreseeable projects will not result in significant cumulative impacts to environmental resources as defined by FAA Order 1050.1F.

Environmental Mitigation

As no significant adverse impacts will result upon implementation of the proposed design changes, no changes to the mitigation measures identified in the 2015 Final EA/EIS are proposed with the exception of the mitigation of adverse effects on Hangars 2 and 3. Those identified mitigation measures are no longer needed.

Project Cost and Schedule

The engineer's preliminary estimated construction cost of the Runway 1-19 Safety Area Improvements Project (in 2017 dollars) is $ 16,502,248.00. The FAA grant for this project is $21,851,855.

Work on the project will be undertaken through one construction contract constructed in multiple phases to minimize effects on airport tenants. NYSDOT will proceed to solicit bids as soon as it receives a Notice to Proceed from the FAA. Construction is estimated to take approximately eight months from construction start.

Conclusion

In conclusion, The Department has determined that the changes to the Proposed Action will not result in new potential significant adverse environmental impacts that were not previously evaluated or disclosed in the 2015 Final EA/EIS. No new information or circumstances relevant to environmental impacts caused by the Proposed Action have been identified. As such, the previous environmental document and determinations remain valid for the Proposed Action.

Dan Hitt
Director, New York State Department of Transportation
Office of the Environment

11/2/18
Date