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|-------------------------------------|------------------------------|---|-------------------------------------|---|--|
| Flight Procedures Cover Page        | Task Action:<br>FLIGHT CHECK | Task Type:<br>IAP                             | Estimated Chart Date:<br>01/22/2026 | APWS Task ID:<br>3E2D3C0DD56645D89B9254181DB7493B | APWS Project ID:<br>EA978A37CAFD45BB84C7DAE831605580 |
| Procedure:<br>RNAV (GPS) RWY 1 ORIG | Enroute:<br>NO               | Specialist:<br>Miller, Ralph                  | Agreement Number:                   |   |  |
| Airport ID:<br>KTEB                 | Airport City:<br>TETERBORO   |   | State:<br>NJ                        |   |  |
| Facility ID:                        | Facility Type:               | Flight Inspection Remark Type:<br>New FC Slot |                                     |   |  |

**Procedure Comments:**

New Procedure.  
 Waiver request for TF turns in Final Segment.  
 Waiver for Missed Approach Maximum Altitude.  
 Approval Request for Mandatory Altitudes in Final Segment.

Contact Rake McGraw 405-954-8711

12/15/25: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 09/05/25.

1. MINIMUMS: ALTERNATE: UPDATED FROM CAT A, B, C, D 800-1 1/4 TO CAT A, B, C 800-2 1/2, CAT D 800-3 - VISIBILITY INCREASE.
2. MINIMUMS: LNAV VISIBILITY CAT A-C RAISED FROM 2 1/4 TO 2 1/2 TO MATCH PENDING AFS CRITERIA NOTICE.
3. MINIMUMS: LNAV VISIBILITY CAT D RAISED FROM 2 1/4 TO 3 DUE TO NO APPROACH LIGHTING SYSTEM.





AIRPORT ID: KTEB  
AIRPORT NAME: TETERBORO  
CITY: TETERBORO  
STATE: NJ  
PROCEDURE: RNAV (GPS) RWY 01  
ORIG  
SCALE: 1:600,000

Feeder COATE to ELIZE  
TERRAIN+AAO (1523)TP0

Feeder STW:VOR/DME to ELIZE  
TERRAIN+AAO (1441)TP50

UBUCK TERRAIN+AAO (1339)  
TP\_T5P9121

Missed Level Surface  
TERRAIN+AAO (1132)TPMA116

Initial ELIZE to ALIDA TOWER (1485)  
34-000086

Initial ALIDA to WAWAH TOWER (683)  
34-000026

Initial WAWAH to VINGS/  
Intermediate VINGS to LEESY TOWER (800)  
34-000793

VGF FIX HOLSY to RW01  
ANTENNA (442)34-085285

VGF SAQON to HOLSY  
ANTENNA (442)34-085285

RNAV URRBN to SAQON AMUSEMENT  
PARK\_STRUCTURE (308)34-023924

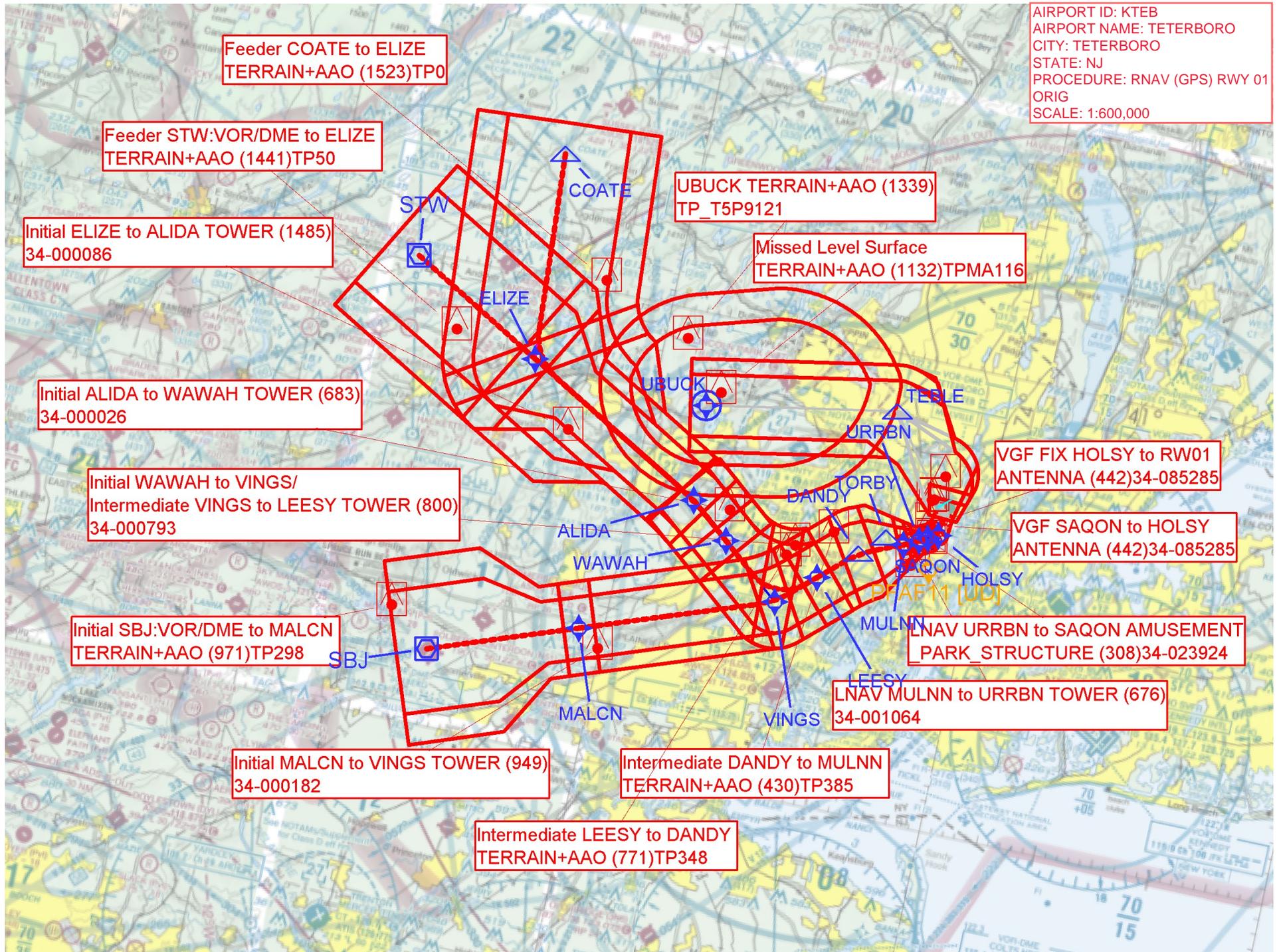
Initial SBJ:VOR/DME to MALCN  
TERRAIN+AAO (971)TP298

RNAV MULNN to URRBN TOWER (676)  
34-001064

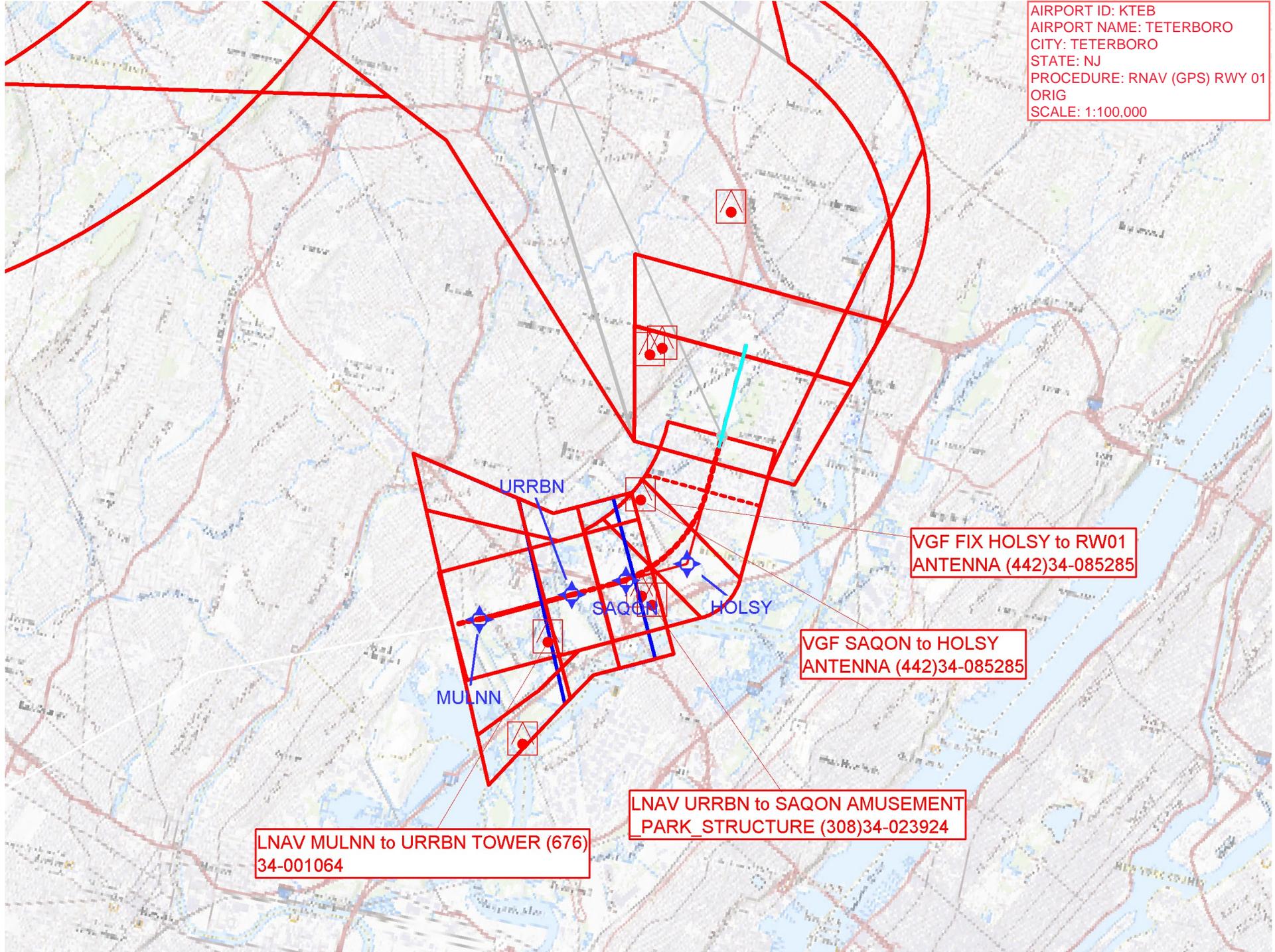
Initial MALCN to VINGS TOWER (949)  
34-000182

Intermediate DANDY to MULNN  
TERRAIN+AAO (430)TP385

Intermediate LEESY to DANDY  
TERRAIN+AAO (771)TP348



AIRPORT ID: KTEB  
AIRPORT NAME: TETERBORO  
CITY: TETERBORO  
STATE: NJ  
PROCEDURE: RNAV (GPS) RWY 01  
ORIG  
SCALE: 1:100,000



LNAV MULNN to URRBN TOWER (676)  
34-001064

LNAV URRBN to SAQON AMUSEMENT  
PARK STRUCTURE (308)34-023924

VGF SAQON to HOLSY  
ANTENNA (442)34-085285

VGF FIX HOLSY to RW01  
ANTENNA (442)34-085285



# Federal Aviation Administration

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## Memorandum

To: Mark Steinbicker, Manager, Flight Technologies and Procedures Division  
THRU: Jim Rose, Manager (A), Flight Procedures and Airspace Group

From: Bev Bordy, Manager, Instrument Flight Procedures (IFP) Coordination  
Team, AJV-A45

Subject: Approval Request: Approval Request: Teterboro, NJ (KTEB) RNAV (GPS) RWY 1

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Mandatory altitude on the final approach segment, 8260.19, paragraph 8-6-11N(1) Maximum or mandatory altitudes should be avoided where possible, especially in the final approach segment. Maximum, mandatory, or block altitudes in the intermediate, final and/or missed approach segment requires Flight Standards approval from the Flight Technologies and Procedure Division, prior to forwarding for publication.

Request approval to “Chart mandatory 2000 at VINGS” (IF) and “Chart mandatory 1300 at DANDY (intermediate stepdown). This request is based on an Air Traffic requirement to ensure vertical separation with departures off Newark INTL (EWR) RWYs 4L/R and Morrison Muni (MMU). Without the mandatory altitude at VINGS and DANDY the approach places aircraft in unprotected areas from other traffic departing EWR and Morristown Muni (MMU). When the runways at Newark is closed, this becomes the only option for ATC northeast flow operations. The mandatory altitude allows Newark to separate Teterboro arrival traffic from Newark and Morristown departure traffic while operating Teterboro simultaneously.

Similarly, the RNAV (GPS) Y RWY 6 and the ILS Z or LOCZ RWY 6 is used when EWR is landing RWY 29 or RWY 11, departing RWY 4L/R. The current ILS 6 has a mandatory crossing altitude of 1300 at DANDY, and EWR departures have a restriction to cross the TEB 24R at or above 2500 but on hot days or slow climbing aircraft sometimes miss this crossing restriction and ATC has minimal options.

Unable to resolve the requested altitude separation by moving fixes or adding step down, Air Traffic’s decision is to request a mandatory altitude at the appropriate fixes. In addition, the current ILS Z or LOC Z RWY 6 RNAV (GPS) Y RWY 6 is charted with a mandatory altitude of 2000 at VINGS and 1300 at DANDY.

**1. FLIGHT PROCEDURE IDENTIFICATION:**

Teterboro, New Jersey  
Teterboro Airport (KTEB)  
RNAV (GPS) RWY 1

**2. WAIVER REQUIRED AND APPLICABLE STANDARD:**

The missed approach incorporates a maximum altitude restriction that is lower than the clearance limit altitude. Order 8260.3G paragraph 2-8-1 states, in part, The Missed Approach procedure must be simple, specify a charted missed approach altitude (altitude at clearance limit), and a clearance limit fix/facility. When required by obstacles or deemed operationally advantageous, the missed approach may also specify an interim "climb-to" altitude to identify a turn point. Any other restriction is not permitted.

**3. REASON FOR WAIVER (JUSTIFICATION FOR NONSTANDARD TREATMENT):**

Air Traffic (N90) requested a maximum altitude restriction/hold-down altitude of 2000' MSL at TEBLE to ensure separation from overhead traffic landing RWY 13 into LaGuardia at 3000 feet.

**4. EQUIVALENT LEVEL OF SAFETY PROVIDED:**

1. No penetration of the 40:1 surface exist between the MAP and TEBLE at the hold-down altitude of 2000 feet.
2. The controlling obstacle for the hold-down segment is an AAO with a height of 750 feet MSL (405812.39N/0741008.85W). Applying 1000 feet of ROC + rounding 750 feet to 800 feet = 1800 feet of altitude required. Greater than standard level surface ROC is achieved within the hold-down segment by requiring aircraft to cross TEBLE at or below 2000 MSL.
3. The procedure RADAR REQUIRED to provide radar monitoring of aircraft executing the missed approach.

**5. ALTERNATIVE ACTIONS DEEMED NOT FEASIBLE:**

1. Publishing 2 variant of each published approach to RWY 6 in order to have 2 separate published missed approach procedures, adding to complexity, possible confusion, and increased ground to air communications.
2. Coding an alternate missed approach for each RWY 6 approach, waiver required and users would have to pay to upgrade their FMS to allow for 2 coded missed approaches.
3. Air Traffic metering of flights into Teterboro and LaGuardia airports would result in excessive arrival and departure delays, as well as capacity reduction for both airports.

**6. COORDINATION WITH USER ORGANIZATIONS (SPECIFY):**

Teterboro User Group (TUG), NetJets, EWR Approach

**7. SUBMITTED BY:**

|      |                       |       |
|------|-----------------------|-------|
| DATE | OFFICE IDENTIFICATION | TITLE |
|------|-----------------------|-------|

**SIGNATURE**

*Digitally signed by*

**RAKE MCGRAW**

Oct 28, 2025

**8. AFS ACTIONS:**

APPROVED    DISAPPROVED    NOT REQUIRED

**COMMENTS:**

|      |                |           |
|------|----------------|-----------|
| DATE | ROUTING SYMBOL | SIGNATURE |
|------|----------------|-----------|

**1. FLIGHT PROCEDURE IDENTIFICATION:**

Teterboro, New Jersey  
Teterboro Airport (KTEB)  
RNAV (GPS) RWY 1

**2. WAIVER REQUIRED AND APPLICABLE STANDARD:**

8260.58 paragraph 3-1-5: TF turns are not authorized in the final segment

**3. REASON FOR WAIVER (JUSTIFICATION FOR NONSTANDARD TREATMENT):**

This RNAV (GPS) procedure will allow for TEB Approach to use runway 1 as a straight-in procedure with straight-in minimums when a north flow is warranted due to winds or runway configuration at EWR and LGA. This procedure is required to allow arrivals to runway 1 with minimal impact to on EWR traffic. Currently today to archive this operation EWR Approach would need to clear an aircraft for the ILS or LOC RWY 6 circle to land runway 1. This maneuver is not desirable due to the unpredictability of one aircrafts path to another which has lead to compression issues and at time cutoff situations which has resulted in at least one one aircraft accident due to the runway orientation to each other. This RNAV (GPS) RWY 1 procedure design with a more repeatable ground track for a safe air traffic flow in the congested New York metropolitan airport area than the current circling maneuver. this procedure will allow for less delays at TEB and EWR airports.

**4. EQUIVALENT LEVEL OF SAFETY PROVIDED:**

- 1. RADAR will be required, which will allow the controller to see and correct any deviation from path. The controlling OBS for this procedure is at an attitude of 308' MSL the next closest OBS to the VGF is 672' MSL which is over 3.81 NM away east of this procedure allowing time for ATC to correct the situation.
- 2. Profile view note stating the Turns required in the Visual Segment to bring it to the pilots attention .
- 3. Flight Management Systems (FMS) manufacturers report if FMS unable to process this procedure, the procedure will not be selectable nor displayed which if necessary the pilot can be cleared for the ILS Z or LOC Z RWY 6 circle to land RWY 1.
- 4. The procedure will be compliant with emerging criteria supporting RNAV (GPS) with ExVS.

**5. ALTERNATIVE ACTIONS DEEMED NOT FEASIBLE:**

Due the type of aircraft that utilizes TEB and the the tight airspace constants no other option is available that provide lateral and vertical guidance with interfering with EWR or LGA airspace.

**6. COORDINATION WITH USER ORGANIZATIONS (SPECIFY):**

TEB ATCT, EWR Approach, AFS-400

**7. SUBMITTED BY:**

|      |                       |       |
|------|-----------------------|-------|
| DATE | OFFICE IDENTIFICATION | TITLE |
|------|-----------------------|-------|

**SIGNATURE**

*Digitally signed by*

**RAKE MCGRAW**

Oct 28, 2025

**8. AFS ACTIONS:**

APPROVED  DISAPPROVED  NOT REQUIRED

**COMMENTS:**

|      |                |           |
|------|----------------|-----------|
| DATE | ROUTING SYMBOL | SIGNATURE |
|------|----------------|-----------|

**1. FLIGHT PROCEDURE IDENTIFICATION:**

Teterboro, New Jersey  
Teterboro Airport (KTEB)  
RNAV (GPS) RWY 1

**2. WAIVER REQUIRED AND APPLICABLE STANDARD:**

8260.3 para 3-3-2 c Determine visibility based on evaluation of the visual portion of the final approach segment. Apply the offset visual area to evaluate the visual portion of a straight-in approach that is not aligned with the runway centerline (more than  $\pm 0.03$  degrees). These evaluations determine if visibility minimums and/or night operations must be restricted. A modification of this visual area construction with an offset final is required.

**3. REASON FOR WAIVER (JUSTIFICATION FOR NONSTANDARD TREATMENT):**

Chapter 3 of the 8260.3 does not address the ExVS design scenario, where only the last part of the final's visual segment aligns with the runway. This waiver bridges the gap between emerging criteria and what is currently available.

**4. EQUIVALENT LEVEL OF SAFETY PROVIDED:**

a. The construction of this procedure's visual portion of final from RWY 1 Displaced THLD to the MDA is accomplished as described by 8260.3g, 3-3-2 c (2) but also includes expanded area that accounts for inside turn expansion.

i. The beginning width of the area is in accordance with standard criteria. (200 ft left and right of runway center line).

ii. The east side of the splay is the outside turn splay (or right side as the aircraft flies) and is based on the 8260.3g, Formula 3-3-1. "Visual Area 1/2 width ( $1/2 W = (0.15 \times D) + 200$ )." The width of the visual area boundary abeam HOLSY remains constant while it follows an arc until reaching the tangent point of the segment between HOLSY and SAQON. Then the splay continues to widen based on formula 3-3-1 from this tangent point until it reaches the point abeam the intersection of the VDA and the MDA, or at the VGF point.

iii. The west side of the splay is the inside-of-turn (or left side as the aircraft flies) and includes early turn expansion. It is also based on formula per the formula above but with the addition of the distance from the radius tangent point of the turn fix. This provides inside turn consideration of the connects at the 1/2 width of the final approach primary area at the MDA point.

The methods above provides a larger evaluation area than that described in the 8260.3g, Ch 3 or than Formula 3-3-1. Visual Area 1/2 Width would require.

b. This procedure will be compliant with emerging criteria.

**5. ALTERNATIVE ACTIONS DEEMED NOT FEASIBLE:**

a. Applying constant rate splays to this instrument approach procedure would ignore the early turn ground track inside the TF turns at HOLSY AND SAQON and could fail to consider and evaluate a visual penetration on these unique designs.

b. Standard criteria does not turn with the design of this approach with extended visual segments. The distance from the RWY 1 displaced threshold and the first TF PIRKS is only 1.43 NM, but the length of the visual segment is 2.12 NM.

**6. COORDINATION WITH USER ORGANIZATIONS (SPECIFY):**

AFS-420, EWR Approach/PHL, TEB TWR

**7. SUBMITTED BY:**

**DATE            OFFICE IDENTIFICATION    TITLE**

**SIGNATURE**  
*Digitally signed by*  
**RAKE MCGRAW**  
Oct 28, 2025

**8. AFS ACTIONS:**

**APPROVED**     **DISAPPROVED**     **NOT REQUIRED**

**COMMENTS:**

**DATE                    ROUTING SYMBOL            SIGNATURE**